

Transactions

Volume 54 2003



LAMAS



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MOUNT OF SUBTON IN Y COUNTY OF SUFFOLK & BROTHER TO Y
SAID FRANCIS

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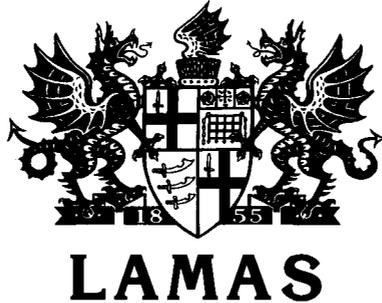
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Editors' note: the editors are happy to consider articles for publication in *Transactions*. New contributors are advised to ask the Production Editor for a copy of *LAMAS Notes for Contributors* before submitting papers.

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Transactions of the
**London and Middlesex
Archaeological Society**

Volume 54
2003

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Contents

List of presidents and officers.....	v
148th Annual Report of LAMAS Council for the year ending 30th September 2003	vi
Income and Expenditure Account for the year ending 30th September 2003 and Balance Sheet as at 30th September 2003	viii
An early Roman occupation site and prehistoric finds at Westferry Road, Isle of Dogs, Tower Hamlets <i>Sian Anthony and Steve Ford</i>	1
Excavations at Mayfield Farm, East Bedfont, London Borough of Hounslow <i>Philip Jefferson</i>	9
An excavation at the Sir John Atkins Building, Campden Hill, Royal Borough of Kensington and Chelsea <i>Timothy Bradley</i>	23
Excavations at Dollis Hill, Brent <i>David Sankey</i>	39
Medieval and post-medieval Fulham, excavations at 31–35 Fulham High Street, Fulham SW6, 2002 <i>Chiz Harward</i>	59
The historical development of Somerset House: an archaeological investigation <i>Duncan Wood and Julian Munby</i>	79
Francis Beaumont’s monument in Charterhouse Chapel and Elizabeth, Baroness Cramond as patroness of memorials in early Stuart London <i>Stephen Porter</i>	111
A summary of papers read at the LAMAS local history conference held at the Museum of London on 15 November 2003: ‘Lunatick London’	121

Reviews

T Nixon, E McAdam, R Tomber & H Swain (ed) <i>A Research Framework for London Archaeology 2002</i> (reviewed by Dominic Perring)	129
J Drummond-Murray & P Thompson with C Cowan <i>Settlement in Roman Southwark: Archaeological Excavations (1991–8) for the London Underground Limited Jubilee Line Extension Project</i> (reviewed by John Dillon)	130
E Howe <i>Roman Defences and Medieval Industry: Excavations at Baltic House, City of London</i> ; T Brigham with A Woodger <i>Roman and Medieval Townhouses on the London Waterfront: Excavations at Governor's House, City of London</i> ; I M Betts <i>Medieval 'Westminster' Floor Tiles</i> (reviewed by Brian Ayers)	131
G Malcolm & D Bowsher with R Cowie <i>Middle Saxon London: Excavations at the Royal Opera House 1989–99</i> (reviewed by Brian Ayers)	132
V Harding <i>The Dead and the Living in Paris and London, 1500–1670</i> (reviewed by Adrian Miles)	134
D Morris <i>Mile End Old Town 1740–1780: A Social History of an Early Modern London Suburb</i> (reviewed by Eileen M Bowlt)	136
Index to volume 54	139

London & Middlesex Archaeological Society

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ESTABLISHED IN 1855

Patrons: The Most Rev The Archbishop of Canterbury; The Right Rev The Bishop of London; The Right Hon The Lord Mayor of London; HM Lieutenant for Greater London and Custos Rotulorum; HM Assistant Lieutenant for the Middlesex area of Greater London; The Very Rev The Dean of St Paul's

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London and Middlesex Archaeological Society

148th ANNUAL REPORT OF COUNCIL FOR THE SUBSCRIPTION YEAR ENDING
30th SEPTEMBER 2003

Council met five times during the year. The 150th anniversary sub-committee has been working throughout the year on the forthcoming celebrations and events for LAMAS members in 2005.

Members of Council and others continued to represent the Society at meetings of the Standing Conference on London Archaeology, the Southwark and Lambeth Archaeological Excavation Committee, the London Archaeological Forum, and the Council of the Victoria County History (Middlesex). Following consultation with our committees, the Chairman, John Clark, responded to proposals for the expansion of Heathrow Airport, expressing the Society's concern at the effects on the historic environment of west Middlesex.

At the AGM in February 2003 Karen Fielder stepped down as Honorary Secretary. Council offered thanks for her work and welcomed Nikola Burdon as the new Honorary Secretary. Karen was one of four new Ordinary Members elected to Council.

It was with regret that the Society learnt of the death of Denis Corble, an honorary member of LAMAS, former member of Council, and Chairman of our Historic Buildings and Conservation Committee for over twenty years, where his enthusiasm and wide knowledge were essential to LAMAS's role in commenting on development plans affecting listed buildings and the historical environment in London. The year also saw the death of Michael Robbins, our President from 1965 to 1970, as well as Chairman of the Council of the Victoria County History of Middlesex (1963–76), Chairman of the Board of Governors of the Museum of London (1979–90), and President of the Society of Antiquaries (1987–91).

Lecture meetings

An interesting programme of both lectures and visits began in October 2002 with a tour of the historic north wing of St Bartholomew's Hospital. In November, David Beasley, Librarian of the Worshipful Company of Goldsmiths, gave an illustrated account of the history of the Company. In December the expected speaker from AOC Archaeology was unfortunately unable to come; those members who attended consoled themselves with mince pies and seasonal cheer. The last in the series of Hugh Chapman Memorial Lectures was given in January 2003 by Francis Grew of the Museum of London, looking at the popular subject of the people of Roman London. At the AGM in February our President Clive Orton devoted his first presidential address to the archaeology of the fascinating Russian site of Novgorod. We returned to the Roman theme in March, when Ralph Jackson from the British Museum tackled surgery in Roman Britain and beyond. April's lecture moved on to the Saxons, when recent discoveries at *Lundenwic* were detailed by Gordon Malcolm of the Museum of London Archaeological Service. The final lecture of the season turned to conservation, with a look at the varied work done at the Museum of London with Helen Ganiaris the Senior Archaeological conservator.

Publications and Newsletter

The *Newsletter* appeared three times under the editorship of Meriel Jeater, continuing to include a wide range of reviews and short articles as well as news of the activities of our own and other societies. *Transactions* volume 52 appeared, the first in which the archaeological contributions were edited by Kim Stabler, alongside Eileen Bowlt as local history editor. The Publications Committee met on a number of occasions to discuss the contents of forthcoming volumes. The new system of seeking referees' opinions of each paper submitted is proving effective — in a number of cases extensive changes were requested from authors, unfortunately resulting in some production delays. Council continues to appreciate the hard work carried out by our Production Editor Lynn Pitts.

The Society's website, ably managed by Francis Grew, continues to attract attention. There have been discussions during the year about its future development.

Membership

Paid-up membership for the year was 659, compared with 651 last year and 654 for 2001. 48 new members joined the society, including 23 by way of the Society's website.

Archaeology Committee

The Archaeology Committee met three times during the year — in January, May and September. Reports on archaeological fieldwork and related matters were received from MoLAS, GLAAS, and SCOLA. The Committee commented on a number of impending schemes, including that of the proposed third runway at Heathrow.

The Committee organised the 40th Annual Conference of London archaeologists, which was held in the Museum of London Lecture Theatre on Saturday 22 March 2003. This year, building works elsewhere within the Museum effectively limited the attendance to 150 delegates; inevitably, a number of late applications for tickets could not be met. Those who did manage to secure a ticket witnessed the presentation of the seventh Ralph Merrifield Award to the joint winners: Barbara Jacobson for her work with the Clerkenwell Community Archaeology Project; and Bob Spain and Tony Taylor for their work on the reconstruction of the Gresham Street Roman water lifting device. The morning session continued with a round-up of recent archaeological work in the London area, including the excavations at Lower Kingswood, Carshalton, Southwark, and Newham. The morning concluded with an introduction to the development of a London archaeological research framework. The afternoon session was devoted to the capital's prehistory, and was addressed by Jon Cotton, Ken Welsh, David Yates, Nick Holder, and J D Hill.

Local History Committee

The 37th local history conference entitled 'Buying and Selling in Metropolitan London' was held on Saturday 16 November 2002 in the Lecture Theatre at the Museum of London.

John Schofield of the Museum of London started the morning with an illustrated talk on 'Shops and trading buildings in London 1200–1700', followed by Claire Walsh of the University of Warwick on 'Shopping in late seventeenth-century London — the Royal, New, Exeter and Middle Exchanges', and Nancy Cox of the University of Wolverhampton on 'Distance shopping in the eighteenth century'. In the afternoon Helen Clifford of the University of Warwick spoke about 'Shopping for luxuries in eighteenth-century London and the development of the West End' and Alan Cox of the Survey of London brought the story of shopping into the twentieth century with 'Knightsbridge neighbours: a comparative study of Harvey Nichols and Harrods'. The day ended with speakers from affiliated societies looking at the theme from a local angle: Patricia Clarke of Pinner Local History Society on 'Retail trade in medieval Pinner and Harrow'; Caroline Cooper of Camden History Society on 'Changing outlets in Primrose Hill'; Brian Bloice of the Streatham Society on 'Keeping it in the family: David Greig and Sainsburys'.

The Committee, with the encouragement of LAMAS Council, discussed making an award for the best publication produced by an affiliated local society or one of their members. It was decided to inform local societies of the scheme at the 2003 conference with a view to making the first award of £100 in November 2004.

The Committee also discussed ways of raising the profile of LAMAS, as an organisation covering local history as well as archaeology, among affiliated societies, and ways of co-ordinating research across Greater London. A meeting for representatives of the societies is to be arranged at LAARC in March 2004.

Historic Buildings and Conservation Committee

In the year under review the Committee met on nine occasions and examined 157 planning applications from the Greater London area, although the central authorities were responsible for the majority of cases. The total number was similar to earlier years.

Some of the major cases examined included the Royal College of Art where the Committee decided that the bold and modern scheme was unsuitable within the setting of well known and loved traditional buildings and the Queen's Theatre, Shaftesbury Avenue, where the proposal to form an extension to include a second auditorium was approved. The King's Cross/St Pancras area redevelopment continues to occupy the Committee, as information is received only on a piecemeal basis. Several large residential schemes — Lots Road Power Station site, Kew Bridge Road, Saint George's Wharf (Wandsworth Road), and Streatham Bus Garage — were among schemes which due to their height and density would have crowded and overshadowed their listed building neighbours.

A scheme to increase office space and the church interior at St Martin-in-the-Fields generally met with the Committee's approval. Proposals for the continuing redevelopment in the Regent Street area and Paddington Station have generally been approved.

The year was notable for the reduction in the number of large office schemes. The Committee responded to the DCMS Consultation Paper: 'Protecting our historic environment: Making the system work better'. The Committee applauded the intention of making the system work better but was apprehensive until there is an opportunity to see the White Paper.

BY DIRECTION OF COUNCIL
John Clark
Chairman of Council

Nikola Burdon
Honorary Secretary

LONDON AND MIDDLESEX ARCHAEOLOGICAL SOCIETY
INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 30th SEPTEMBER 2003
AND BALANCE SHEET AS AT 30th SEPTEMBER 2003

2001/2002	Income	2002/2003	2002	Assets	2003
£	£	£	£	£	£
9,715	Subscriptions	10,111	2,006	Investments	2,006
310	Donations Received	0	407	Sundry Debtors	262
2,401	Dividends and Interest	1,853	3,666	Bank & Cash Balances	3,888
1,052	Sales of Publications	673	59,549	Building Society Deposits	66,319
0	Grants for Publications	6,560	0	Library	22,000
	TOTAL INCOME	£ 19,197	£ 65,628		£ 94,475
	Expenditure			Liabilities	
1,553	Transactions	10,707	850	Future Publications	850
1,670	Newsletter	1,679	439	Wheatley Bequest	0
1,500	Grants to LAARC & Publications	0	6,000	Provisions	6,500
282	Internet Costs	282	11,779	Publication Fund	11,983
210	Lectures and Visits	180	118	G.E. Eades Memorial Fund	0
(543)	Local History Conference	(866)	466	Creditors	96
(408)	Archaeological Conference	(375)		ACCUMULATED FUNDS	
0	Historic Buildings Committee	0		General Fund	
44	Postage, Printing & Stationery	113		Balance at 1.10.02	45,976
100	Ralph Merrifield Award	100	35,975	Transfer to/from Publications Fund (204)	
70	Bank Charges	60	(457)	Transfer to /from Provision for	57
100	Subscriptions	100	1,500	Transactions	22,000
142	Miscellaneous Expenditure	0	0	Library	7,217
	Surplus/(Loss) for the Year	£ 19,197	8,958	Surplus/(Deficit) for the Year	75,046
			£ 4,520		£ 94,475
			7,217		
			£ 13,478		

AN EARLY ROMAN OCCUPATION SITE AND PREHISTORIC FINDS AT WESTFERRY ROAD, ISLE OF DOGS, TOWER HAMLETS

Sian Anthony and Steve Ford with Charlotte Thompson

SUMMARY

Excavation in advance of development at Express Wharf on the Isle of Dogs by Thames Valley Archaeological Services has revealed traces of possible prehistoric settlement and certain Roman occupation concentrated in the 2nd century AD. The chronology of this settlement may provide support for the idea of falling water levels during the Roman period, allowing a previously inundated area to be exploited. Despite its small size, evidence of Roman occupation is important as no sites of this period have previously been discovered on the Isle of Dogs, the nearest site being that recently excavated at Shadwell (British Archaeology (March 2003)).

INTRODUCTION

Located on the east side of the River Thames abutting the contemporary river wall (Fig 1), the site lies on the Thames floodplain, with underlying geology of gravel capped by alluvium (BGS 1981). An evaluation (Ford 2001) following an earlier desktop study (Parry 2000) revealed the presence of a small portion of sand-capped terrace edge buried by alluvium. From the alluvium three sherds of Roman or probable Roman pottery were recovered, suggesting the potential for more substantial archaeological remains on the higher ground to the east.

ARCHAEOLOGICAL BACKGROUND

Few sites of any period on the Isle of Dogs are

noted in the recent summary of *The Archaeology of Greater London* (MoLAS 2000). This absence was previously thought to be because the area was flooded: alluvium can reach thicknesses of 2m across the Isle of Dogs, and documentary evidence shows land reclamation from the Saxon period onwards. Occupation in earlier times was concentrated on small areas of high ground, and there is evidence for the linking of such areas with wooden trackways (Meddens 1996). Prehistoric occupation has previously been identified on the Isle of Dogs at Atlas Wharf to the south where Neolithic features and a preserved wooden platform or trackway of Bronze Age date were found (MoLAS 2000, 23), while Neolithic settlement features and a burial dated to 4220–3979 cal BC have recently come to light at Yabsley Street, Blackwall (Coles *et al* forthcoming). In contrast, there are no references to Iron Age or Roman deposits.

THE EXCAVATION

The excavation comprised a single area of 325 sq m centred on the small area remaining of the terrace edge. The area was machine-stripped of overburden and alluvium to expose the top of the sand representing the terrace. The stratigraphy showed made ground over thick layers of brown silty alluvium; the natural sand capping the gravel terrace was revealed beneath this at a surprisingly shallow depth of between 1m and 0.8m AOD (Fig 3). The sinuous edge

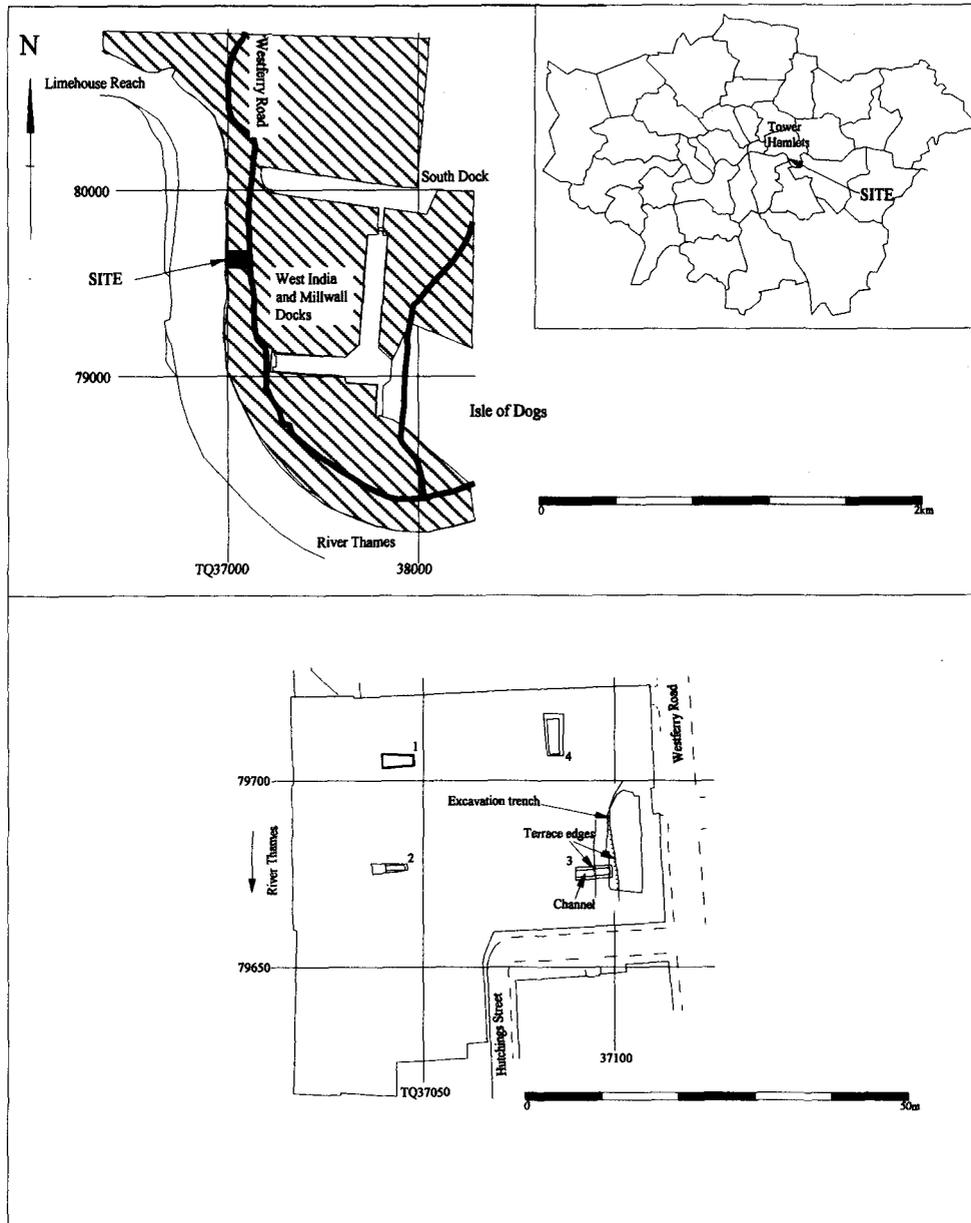


Fig 1. Location of site and areas investigated

of the terrace was aligned more or less south-north, with at least two steps present, reflecting episodes of erosion. To the west, a much greater thickness of alluvium was present. The lower terrace step as observed in the initial evaluation trench (just to the west of the excavation area) revealed a channel cut into the natural gravel,

infilled with peat, overlain by blue-grey alluvium. A sample column through these deposits was taken for pollen analysis but revealed low levels of pollen preservation which suggested open country species throughout (Keith-Lucas in Ford 2001).

The upper terrace edge was overlain by a slump

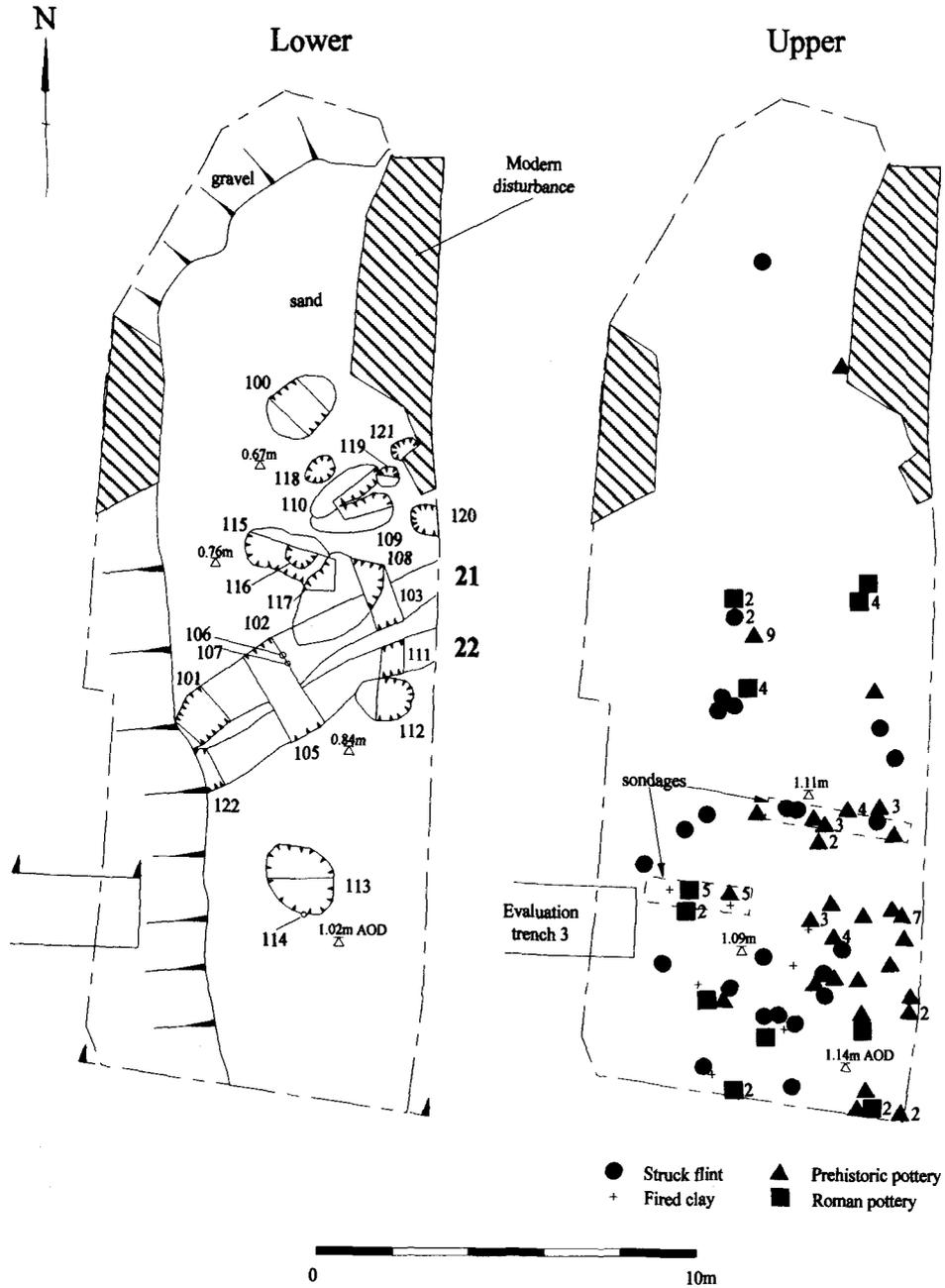


Fig 2. Detailed location of features and residual finds

of sand from which Roman pottery and metal objects were recovered and which represents either colluvium or a deposit reworked by the ebb and flow of water. This sand was overlain by brown alluvium which also covered the terrace

itself. During the final stages of the machine stripping, many stray finds were encountered in this alluvium just above the natural sand (Fig 2). This level was hand-cleaned and the artefacts recorded individually. No cut features

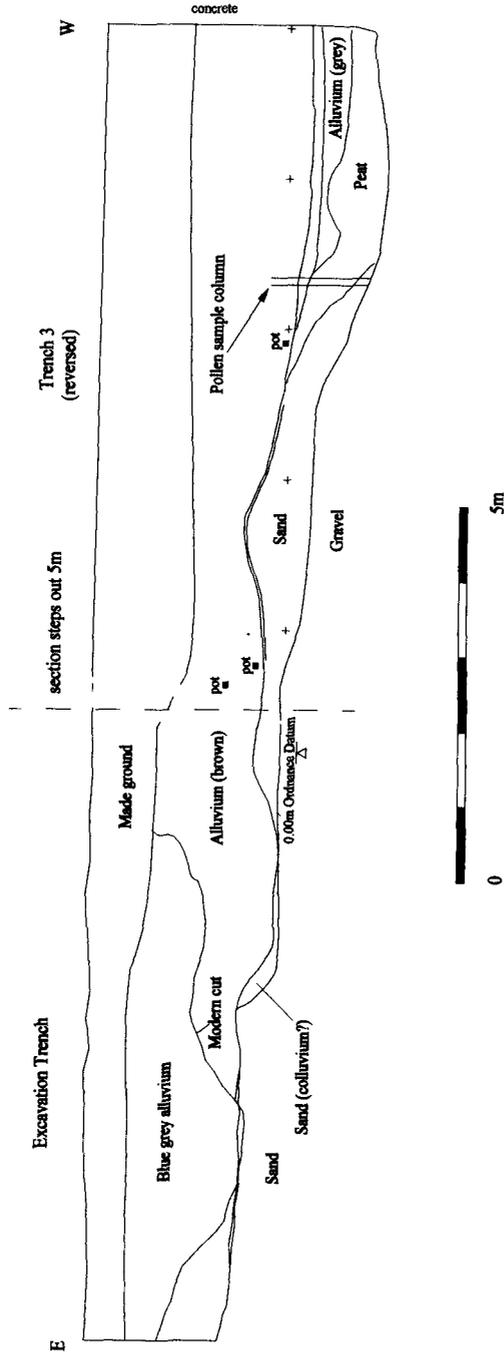


Fig 3. Complete section of south end of excavation trench and reversed section of Evaluation Trench 3

were observed at this level and the remaining alluvium was stripped further to reveal the sand-capped terrace, cut by several clearly visible archaeological features.

This phase of activity was represented by two parallel gullies (21, 22) aligned NE–SW, between 0.18m and 0.35m deep. Both disappeared at the western edge of the terrace; they may have terminated at this point but more probably had eroded away. Both had flat bases and curved sides and their fills included 2nd-century AD pottery and residual prehistoric finds. The relationship between the two gullies is unclear; although it is possible that one was slightly earlier, perhaps originating in the late 1st century AD, it is more likely that the two gullies were open and in use at much the same time. The gullies were cut by a tree bole and later pits and stakeholes.

Twelve pits (some little more than ‘scoops’) were identified, clustered around and mostly to the north of the gullies. Despite the presence of prehistoric pottery and struck flint on the site, it is clear that most of this material was residual in features unambiguously of Roman date. However, five pits and one ‘scoop’ which only (or mostly) produced prehistoric material may potentially be of prehistoric date. The number of sherds from each feature though is not large (no more than the six each from pits 100 and 116), nor is the condition of the sherds in these features markedly different from those which are clearly residual. The fragmented remains of a left rear leg from a horse were found on the surface of one of these pits (120).

Four pits were dated as Roman: 108, based purely on stratigraphy; 115 had 1st-century AD pottery (seven sherds from the same vessel); 100 contained a large piece of pottery dated to AD 50–160; and 113 was a circular pit with two fills dating between AD 120 and 160. Four undated, oval and relatively shallow pits (109, 110, 118,

119) seem likely to be contemporary with the Roman features.

Three stakeholes were clearly represented by their pointed profiles. Two cut one of the gullies and a third cut the upper fill of one of the Roman pits.

Pottery

Charlotte Thompson

A total of 407 sherds weighing 1.6kg was recovered from 63 contexts. All of the individual context assemblages are small (up to 29 sherds) except those from gully slot 101 (152) and pit 113 (163 and 164) which are medium-sized (30 to 99 sherds). Generally, the sherds are in a poor condition being abraded and 20% of the sherds weigh 1g or less. Details of method, quantification and a full report are in the site archive.

The prehistoric pottery (120 sherds, 0.3kg) is almost entirely plain body sherds primarily in flint-tempered fabrics with very little decoration. Twelve different fabrics were distinguished in five groups; 82 sherds were flint-tempered and 38 vesicular. Fabric FLIN1 can be categorized as Neolithic plain ware. Three of the four sherds in this fabric came from pit 100, which may be of this date. Some rims with fingertip and fingernail impressions could date from the Neolithic to the late Bronze Age. The longevity of the fabrics in the London area hinders using them (other than FLIN1) to date the features especially closely. Beaded rims which occur throughout the prehistoric period were also present but badly eroded. Carbonated residue on one sherd indicates that the vessel has almost certainly been used for food preparation.

The Roman assemblage (285 sherds, 1.16kg, see Table 1) indicates activity from the 1st to 3rd centuries AD, with one third of the contexts having a latest date of AD 160. The majority

Table 1. Roman pottery by fabric type

Ware	No. of sherds	% of Roman assemblage
Amphora	4	1
Black-burnished ware type	3	1
Fine ware, imported	0	0
Fine ware, Roman	1	1
Fine ware, reduced	34	12
Oxidized wares	50	18
Reduced wares	143	50
Samian	15	5
Grog-tempered	35	12

of the fabrics date to the first half of the 2nd century AD. However, there is some evidence for 3rd- and 4th-century activity: an Oxfordshire white ware mortarium sherd and a stray find of Oxfordshire colour-coated ware, dated AD 270–400. The small percentage of grog-tempered wares (12%) suggests that the start date for the site is not particularly early, as these fabrics are most common in the 1st century AD in the London area.

It is interesting that just 6% of the fabrics are imported, including samian from east and central Gaul dating from the second half of the 1st century to the end of the 2nd century AD. Few diagnostic sherds were found, most being from jars or beakers (Table 2). With very few exceptions, the Roman pottery is very abraded, generally in far worse condition than the prehistoric pottery. Some of it is rounded on all surfaces, so it is possible that the rising and falling of the water table at this site has caused the heavy abrasion of the sherds.

Table 2. Roman pottery by form

Form	No. of sherds	% of Roman assemblage
Amphora	4	1
Flagon	3	1
Flagon/Jar	27	9
Jar	106	37
Jar/Beaker	34	12
Beaker	24	8
Bowl	7	2
Bowl/Dish	4	1
Dish	5	2
Cup	0	0
Mortarium	3	1
Miscellaneous	75	26

Other finds

Other finds recovered include two pieces of glass from bottles, one dated between the mid-1st and the late 2nd century AD, an earring and a fragment of what appears to be a very simple penannular brooch of a type in use from the late Iron Age well into the Roman period. A 2nd-century AD date would be consistent with both items.

Small amounts of fired clay include one piece of a possible loomweight. A small collection of flints includes none which is especially chronologically distinctive. One flake was possibly serrated along one edge but lacked any gloss. If this piece was serrated, as opposed to accidentally

edge damaged, it is likely to be of Neolithic date. The single definite retouched piece, a small end scraper, is the only patinated piece, which suggests that it belongs to a different period from the other material; this form might be Mesolithic. The majority of the material, made from local gravel flint of indifferent quality using a hard hammer, is probably of later Neolithic or Bronze Age date.

A small collection of very fragmented and poorly preserved animal bone was found, all of which was heavily abraded. Species represented include horse, cattle, sheep/goat and one pig fragment, all expected domesticated species from a settlement site.

CONCLUSION

Prehistoric

Earlier prehistoric (that is Mesolithic through to the Bronze Age) occupation and use of the sand and gravel fringes of the lower Thames is a recurrent pattern in this region (Merriman 1992). The presence of a quantity of pottery and cut features suggests that the prehistoric activity was more intensive than mere casual use and can be taken to indicate occupation here or close by. The varied dating of the pottery and the condition of some of the flint suggest repeated use of a favoured topographic location over many years with some specific areas being occupied more intensively than others at different times. Considering that excavations at Atlas Wharf, south of the present site, yielded just one prehistoric sherd, tentatively dated to the Late Bronze Age, it is noteworthy that this site contained so many prehistoric sherds.

Roman

Much research has taken place into the variations of the height of sea level relative to the Thames waterfront, particularly during the Roman period. This has established a pattern of slowly rising water levels up to the 1st century AD (Milne *et al* 1983). At this time the general level of high tide is estimated at 1m–1.25m above OD or even up to 1.3m AOD (Yule 1988, 15). Subsequently, the evidence points to a general lowering of water levels that continued until the 4th century AD (Brigham 1990). These estimates can be compared to the occupied levels on this site which are present at 0.7m–1.0m AOD. The evidence for the Roman activity on the Westferry

Road site, taking place from the late 1st century AD onwards, supports this chronology. It is possible that the site was occasionally flooded in the earliest years of the Roman period, but that a subsequent lowering of the high tide level would have made the site dry land and viable for normal use.

The main Roman use of the site appears to be concentrated in the 2nd century AD, perhaps extending into the 3rd century. The pits and gullies suggest an occupied area in the near vicinity, though no structural remains were found. The features continue out of the excavation area to the east suggesting that further deposits may lie in that direction. The western and northern limits of the site are defined by the edge of a river channel and it is probable that some erosion of deposits by the river has occurred in these areas. Finds from the site are not exceptional, with few imports, but the presence of some glass and metal objects suggests a personal/domestic setting with a degree of sophistication. The deposits presumably reflect the presence of a farm and the small collection of faunal remains shows the usual domesticated species. Unfortunately no charred plant remains other than charcoal were recovered to allow the further examination of economic and consumption patterns.

It is likely that rising water levels led to the abandonment of the site and the few sherds of later pottery provide a possible date for this. The subsequent history of the site is one of inundation leading to the deposition of a great depth of alluvium. It was not until late post-medieval times that further intensive activity took place, with the building of industrial works (Parry 2000).

The discovery of this site has important implications for future fieldwork and research in the area, as it has considerably expanded knowledge of both the prehistoric and Roman periods. Although the site reported here is small, it implies more settlement waiting to be discovered in the immediate vicinity. It is possible that this site was exploiting a niche in the environment and occupying a very small area of higher ground such as a gravel 'island' or perhaps a levee along the banks of the river in an area which was otherwise frequently inundated. However, it is also possible that lower river levels overall could have allowed widespread Roman activity on the Isle of Dogs at this time. If so, the

dislocation of settlement in later Roman times due to a new rise in water levels would have been all the greater. The nature of activity in both periods is unclear from this small excavation but this evidence does enhance the knowledge of both prehistoric archaeology in the area and study of the hinterland of Roman London.

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EXCAVATIONS AT MAYFIELD FARM, EAST BEDFONT, LONDON BOROUGH OF HOUNSLOW

Philip Jefferson

With contributions by Michael J Allen, Wendy J Carruthers, Nicholas Cooke, Lorraine Mephram and Rachael Seager Smith

SUMMARY

Excavations by Framework Archaeology in advance of development at Mayfield Farm, East Bedfont revealed remnants of a Middle to Late Bronze Age field system and the possible remains of an associated settlement. Extensive field systems recognised further to the north near Heathrow Airport were previously believed to be confined to the Taplow gravel terrace, but the location of the site at Mayfield Farm indicates that they extended southwards onto the northern fringe of the lower Kempton Park terrace. Romano-British activity associated with Scheduled Monument LO61 was also recorded.

INTRODUCTION

Framework Archaeology (a joint venture between Oxford Archaeology and Wessex Archaeology) was commissioned by Heathrow Airport Limited (HAL) to undertake a programme of archaeological evaluation and mitigation (GL Site Code: MFM98) prior to and during the development of a constructed wetland and balancing ponds at Mayfield Farm, East Bedfont in the London Borough of Hounslow. The site is located south of Heathrow Airport, centred on NGR 507200 173550, and covers an area of c.45ha. It is bounded to the south and east by the A30, to the north by Stanwell Road, and to the west by the ESSO Oil Terminal (Fig 1). Prior to the redevelopment programme the site was open arable farmland.

This report is presented as a continuous

narrative incorporating a number of specialist finds and environmental reports, which form part of the site archive. The complete archive will be deposited with the London Archaeological Archive and Research Centre (LAARC).

GEOLOGY AND TOPOGRAPHY

The Mayfield Farm development area lies on the junction between two Thames gravel terraces. The northern third is located on the edge of the higher Taplow terrace, whilst the remainder lies on the Kempton Park terrace to the south. The boundary between the terraces is visible as a distinctive break in slope (Figs 2–3). An almost continuous mantle of Langley Silt brickearth (Gibbard 1985) caps the Kempton Park terrace, whereas the Taplow gravels are denuded of the brickearth deposits.

ARCHAEOLOGICAL BACKGROUND

Aerial photographic survey, trial excavation and evaluation in the Mayfield Farm area over the past thirty years have revealed rich archaeological landscapes dating from the Palaeolithic to the Roman periods (Fig 2). The area thus forms a significant element of the wider West London archaeological landscape. Intensive investigations of this landscape were undertaken between the 1970s and the 1990s by the Museum of London Archaeological Service and others (Farrant 1973; Cotton *et al* 1988;

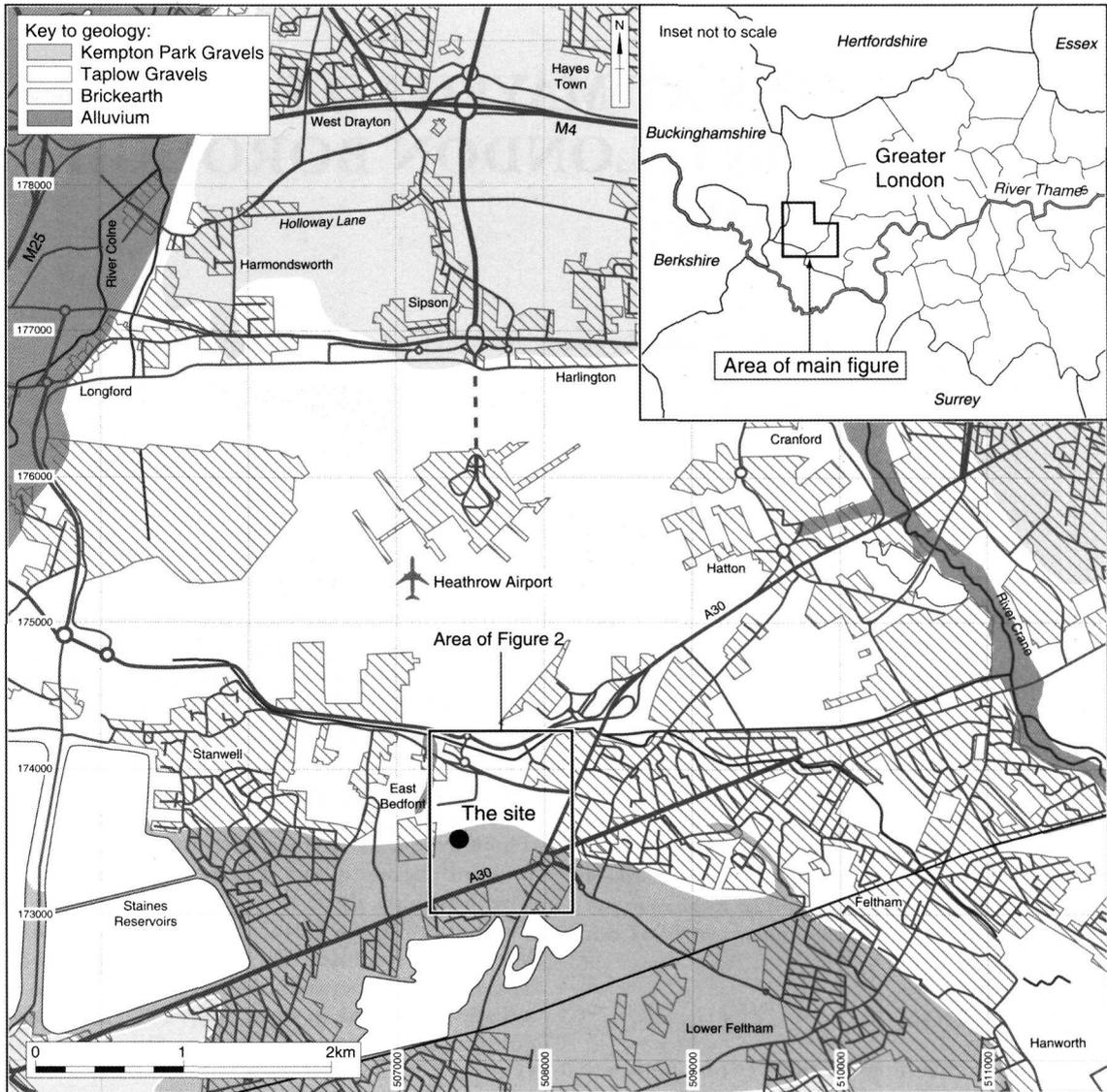


Fig 1. Site location and geology

BAA 1994). More recently, Wessex Archaeology excavated a large area at Imperial College Sports Ground (Crockett 2001) and Framework Archaeology excavated a substantial area of the former Perry Oaks Sludge Works (Barrett *et al* 2000; 2001). These large excavations contributed to a more detailed understanding of the wider landscape and its development from the Neolithic onwards. This allowed clear research aims to be defined at the outset of the Mayfield Farm Project, and it is against the wider picture

of landscape inhabitation and development that the excavations are discussed here.

PROJECT BACKGROUND

The proposed development was restricted to 10 hectares on the western boundary of Mayfield Farm, hereafter referred to as the Site. The Museum of London Archaeology Service (MoLAS) undertook the first stages of an evaluation programme, consisting of

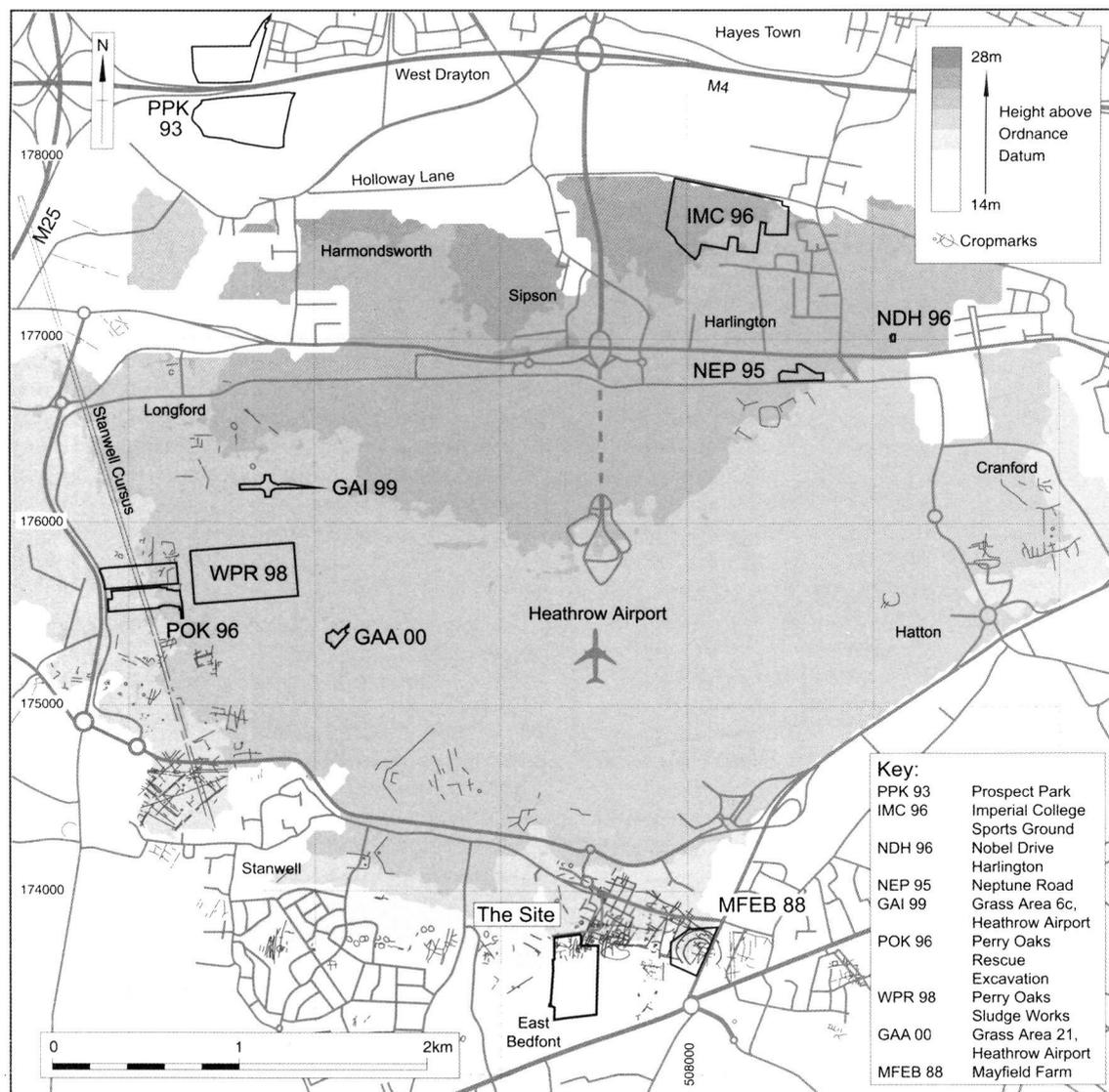


Fig 2. Archaeological sites in the vicinity of Mayfield Farm

topographical survey and fieldwalking (MoLAS 1998) and the Royal Commission on the Historical Monuments of England (RCHME) compiled a survey of available aerial photographs of the area (RCHME 1997). Framework Archaeology was subsequently commissioned by BAA to undertake a geotechnical survey and field evaluation by trenching.

The results of fieldwalking were largely negative but the aerial photographic survey redefined the recognised extent of cropmarks

associated with two Scheduled Monuments, LO61 (a Romano-British settlement) and LO62 (a large double-ditched prehistoric enclosure), situated on the northern and eastern boundaries of the Site (Fig 3). The geotechnical survey highlighted the presence of colluvium or possible palaeochannels running east-west along the foot of the terrace edge, whilst the field evaluation determined that the Late Iron Age/Roman remains associated with LO61 did not extend into the development area. Overall,

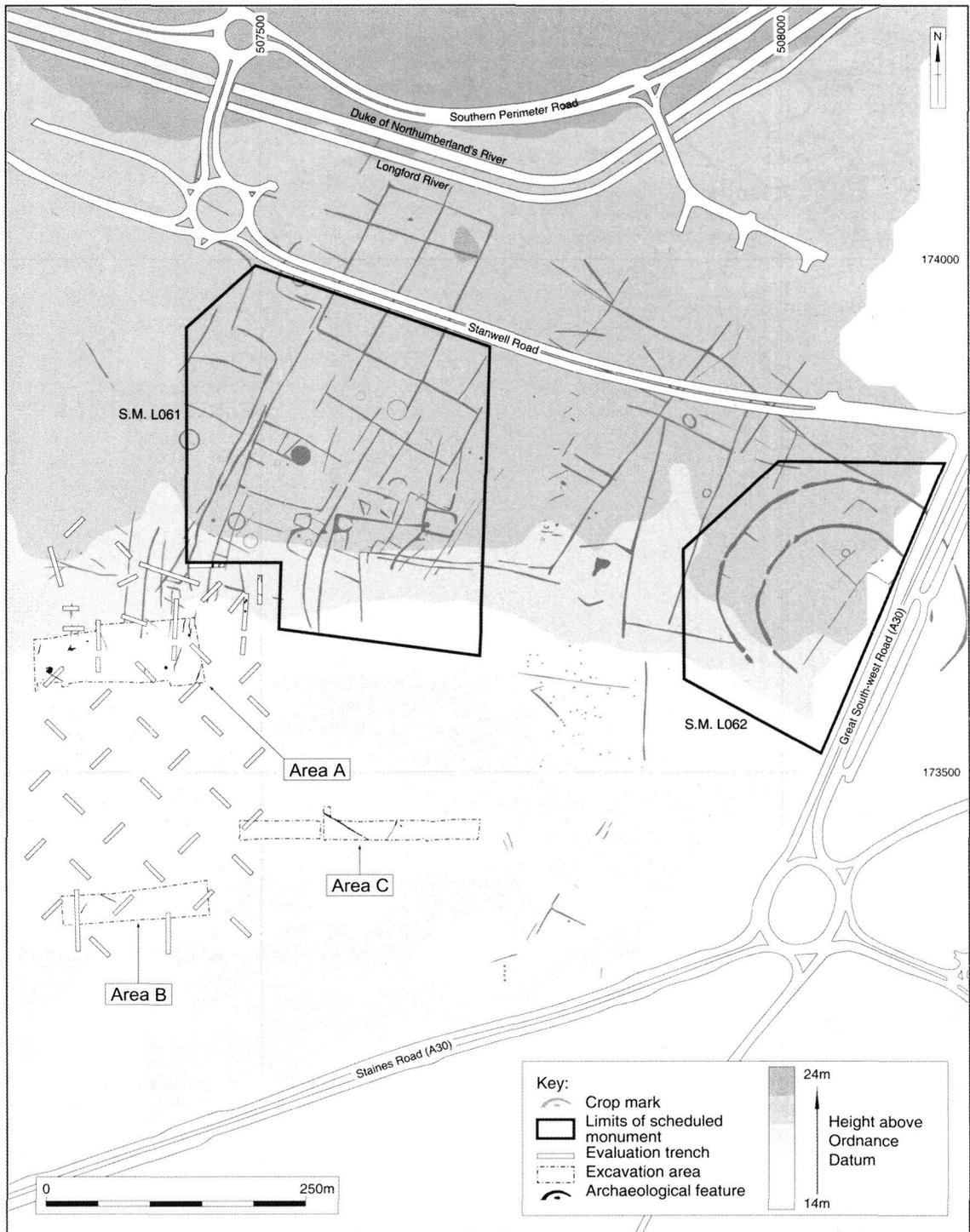


Fig 3. Location of trenches in relation to cropmarks and scheduled monuments

the evaluation results demonstrated that it was possible to design a mitigation strategy directed towards preservation *in situ* of significant, or potentially significant, archaeological remains. This was achieved over the majority of the development area.

In three of the Site areas (Areas A–C) where preservation *in situ* could not be achieved (approximately 1.8ha in total), mitigation took the form of a programme of topsoil stripping, recording, and sample excavation (Fig 3). These areas were covered by a loam ploughsoil with a maximum thickness of 0.5m that, except in one area, directly overlay natural deposits. The exception was the terrace scarp zone where a colluvial deposit had built up at the break of slope of the Kempton Park terrace. This build up may have been the result of ploughing and erosion of the brickearth capping the higher Taplow terrace.

ARCHAEOLOGY AT MAYFIELD FARM

Hunter-gatherer landscapes: pre-4000 BC

No direct evidence of hunter-gatherer activity was discovered but a number of palaeo-topographic features were detected. The topographic survey identified a dry valley running approximately north–south across the Taplow/Kempton Park ‘scarp’. Stripping confirmed the existence of this former watercourse running off the Taplow terrace southwards across the Kempton Park terrace. The east–west orientated scarp slope between the Kempton Park and Taplow terraces, originally believed to be a palaeochannel, was identified during evaluation to the south of Area A. A possible palaeochannel occupied the southern edge of the development area, but the requirement for preservation *in situ* precluded detailed investigation. As this channel was assumed to be incised into the Kempton Park gravels, but sealed by the Late Devensian Langley Silt (‘brickearth’) deposits, it would have formed some time between c.50,000 and 10,000 BP.

Ceremonial landscapes of the earliest farmers: 4000–2000 BC

Aerial photographs of the southern edge of the Taplow terrace have produced excellent evidence of multi-period landscapes. Excavations carried out during the early 1970s (Farrant 1973) and by MoLAS during the late 1980s

(Cotton *et al* 1988) have enhanced the detail of this landscape picture. Prior to the current programme, however, it was not clear to what extent archaeological features extended southwards from the Taplow terrace onto the Kempton Park terrace at Mayfield Farm due to the cloaking effects of the capping brickearth deposits on the lower terrace.

The Neolithic landscape in the vicinity of Mayfield Farm was dominated by a series of hengiform and ring-ditch monuments that extended east–west along the false crest of the Taplow-Kempton Park interface ‘scarp’. To the west the Stanwell cursus probably terminated at this major topographical feature (Fig 2). Sample excavation of one of the hengiform monuments by MoLAS (Site codes MFEB87 and MFEB88) suggested that the ditches of the monument had entirely silted-up by the first millennium BC.

The eastern end of the Taplow-Kempton Park ‘scarp’ within the vicinity of the Site is particularly pronounced, and it is here that the double-ditched enclosure (LO62) is located. The 1988 MoLAS excavations (MFEB88) produced Late Bronze Age pottery from the middle and upper ditch deposits. This, however, may merely date the disuse of the monument, the actual construction phase being associated with a dense concentration of later Neolithic flints recovered by fieldwalking within the enclosure and surrounding area (Lewis 2000, 73).

The Site (MFM98) produced only sparse evidence of a Neolithic presence. Three sherds of pottery characteristic of the Late Neolithic and Early Bronze Age ceramic traditions of the region, along with a number of worked and burnt flints, were the earliest artefacts recovered. Two sherds came from the ploughsoil in evaluation Trench 17 and one was stratified within the fill of pit 5118 (Fig 4, Area A). All were in a coarse grog-tempered fabric characteristic of the Late Neolithic/Early Bronze Age period in the Middle Thames Valley but, in the absence of more diagnostic features, they could not be attributed to a specific ceramic tradition. The worked flint assemblage included an assortment of flakes, broken flakes, a single scraper and a retouched piece that had been struck from locally available gravel and Bullhead flint. Most pieces displayed edge damage, suggesting post-depositional movement, and one of the pieces was burnt. The flints were not chronologically distinctive and could be assigned only a broad Neolithic to Bronze Age date.

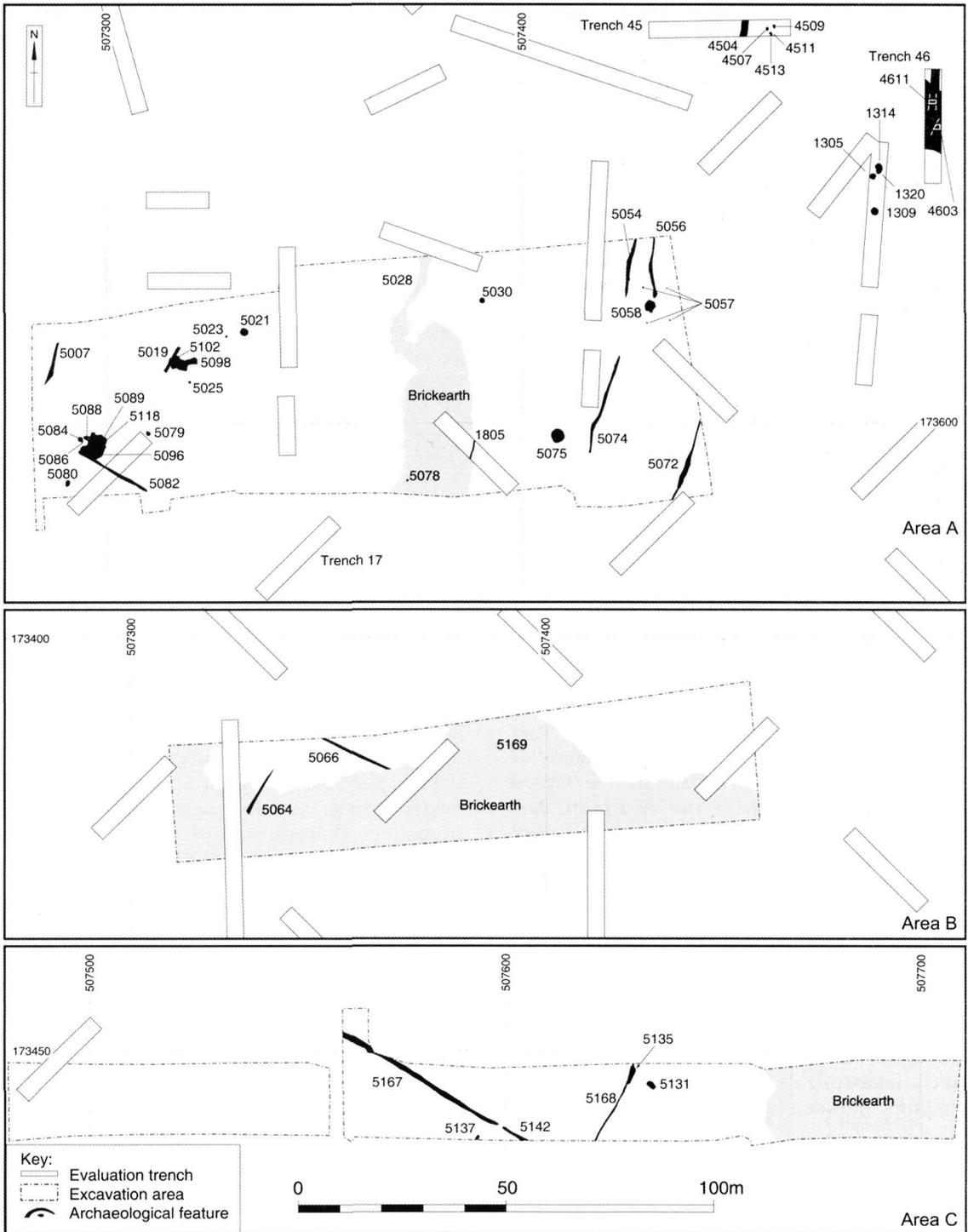


Fig 4. Areas A, B and C showing positions of evaluation trenches and principal excavated features

The enclosed agricultural landscape: 2000 BC–100 BC

Between 2000 and 1500 BC (Early to Middle Bronze Age), the Neolithic ceremonial landscape was transformed into an ordered system of land boundaries, fields, trackways, and settlements (Barrett *et al* 2000; 2001). This pattern of development continued into the Roman period with local alterations and additions to land use, boundary alignments, and settlement size and location. The cropmark evidence from the Site attests to this transformation, clearly indicating the presence of numerous field boundaries. The 1988 excavations identified Iron Age round-houses, presumably part of a more substantial settlement, and the excavations of the 1970s (Farrant 1973) located the scheduled Romano-British settlement (LO61).

The evidence from Mayfield Farm added detail to this outline and confirmed the presence of activity on the Kempton Park terrace. Excavations revealed a number of features (Fig 4, Areas A–C) dating to the Middle to Late Bronze Age. These represented elements of field systems and the truncated remnants of a possible associated settlement. The field system was composed of a series of ditches orientated south-east to north-west (Area A: ditch 5082; Area B: ditch 5066; Area C: ditches 5167 and 5142), and south-west to north-east (Area A: ditches 5007 and 5019; Area B: ditch 5064; Area C: ditches 5135, 5137, and 5168). The character and comparable orientations of the ditches suggest that they were elements of the same system, one that reflects the cropmark alignment visible on aerial photographs (Fig 3). The layout of the field system appears to have been influenced not by the predominant topography of the area but by more subtle trends in the orientation of the slope.

The only dating evidence recovered from the field system and possible associated settlement was an assemblage of pottery, dated on the basis of fabric to the Middle to Late Bronze Age. Sherds were recovered from the fills of ditches 5082, 5135 and 5142, tree-throw 5021, pit 5023, posthole 5078, and layer 5028 (Table 1). The assemblage was generally in a fragmentary and abraded condition and was represented entirely by body sherds, most in flint-tempered ware, with the exception of a rim fragment from a Late Bronze Age hooked rim jar found in posthole 5078 (Fig 4, Area A). Sherds at the coarser end

of the spectrum derived from thick-walled vessels probably belonging to the Middle Bronze Age Deverel-Rimbury tradition, whilst the finer, thin-walled variety fell within the plainware phase of the Late Bronze Age post-Deverel-Rimbury tradition. The three boundary ditches all produced sherds of the Late Bronze Age variety, but the ditch 5082 assemblage contained, in addition, a number of residual Deverel-Rimbury sherds.

A number of pits, postholes and other features filled with burnt flint were recorded. Most of these features, including pits 5025 and 5102, were located in Area A, close to the break of slope of the lower terrace, but pit 5131, in Area C, which produced two Middle Bronze Age sherds, also contained a substantial quantity of burnt flint. Burnt flint pits have been located at other sites in the vicinity, including Perry Oaks to the north-west of Mayfield Farm (Barrett *et al* 2000). These features are increasingly recognised within Bronze Age settings and are variously interpreted as cooking troughs or refuse pits containing material derived from such troughs, sweat lodges or saunas, or features associated with small-scale industry producing calcined flint for use in pottery production (Needham 1991, 137; Barfield 1991).

Two large clusters of inter-cutting pits (5089 and 5098) were located at the western end of Area A. The individual pits were *c.*0.60m in diameter and up to 0.40m in depth. A number contained charred plant remains and charcoal. Their function was not established but, in view of their location within the deeper brickearth deposits on the scarp slope, it is reasonable to conjecture that they were small-scale brickearth extraction quarries associated with a settlement set in the surrounding field system. Evidence of structures associated with such a settlement may have been lost due to truncation resulting from agricultural activity. Nonetheless, the environmental evidence pointed to domestic activity in the vicinity and provided some evidence for the nature of the ecology during the Middle to Late Bronze Age.

A sampling programme for the recovery of charred plant remains was undertaken during excavation. Preserved charred material was recovered from two samples taken from Middle to Late Bronze Age features, posthole 5078 and pit 5131 (Table 2). Both samples contained abundant charcoal, and a small quantity of charred cereal was also recovered from the pit.

Table 1. Finds recovered from excavation, with reference to evaluation

Weight in grammes; CBM =ceramic building material; Neo/EBA = Neolithic/ Early Bronze Age; MBA = Middle Bronze Age; LBA = Late Bronze Age; Ro = Roman

Feature	Context	Burnt flint		CBM (RB)		Fired clay		Flint		Glass (RB)		Neo/EBA pot		MBA pot		LBA pot		Ro pot		Post-Ro pot		Copper alloy
		No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	
Soil accumulation	5004	2	31					3	28													
Ditch 5007	5006	2	41					1	1													
Ditch 5019	5018							7	83													
Tree throw 5021	5020	13	454					4	75													
Pit 5023	5022	4	77																			
Layer	5028																					
Tree throw 5021	5048	4	22					5	27													
Tree throw 5021	5049	10	70					5	16													
Posthole 5078	5077	2	19																			
Ditch 5082	5081	34	127					4	3													
Pit 5102	5100	149	1623																			
Pit 5102	5102																					
Pit 5105	5104	1	37					1	3													
Pit 5108	5107	11	101					3	15													
Pit 5112	5111	3	20					1	1													
Pit 5118	5119	2	7					1	1													
Pit 5128	5127	1	10					1	1													
Pit 5131	5130																					
Pit 5131	5132	75	1026																			
Ditch 5135	5132	8	123																			
Ditch 5140	5141	1	61																			
Ditch 5142	5158																					
Mod disturbance 5148	5147																					
Ditch 5164	5162							2	3													
Ditch 5168	5153	1	13																			
Sub-total excavation		323	3862	0	0	1	9	38	259	0	0	1	3	21	382	23	104	0	0	1	53	0
Including evaluation	TOTAL	393	4488	11	276	167	2365	48	319	1	13	1	3	73	shards / 590g	209	2557	3	82	1	1	1

Table 2. Results of the charcoal analysis by fragment count

Feature	Posthole 5078	Pit 5131
Sample number	5503	5504
Context number	5077	5130
<i>Quercus</i> sp.	Oak 14	9
<i>Corylus avellana</i>	Hazel 3	2
Maloideae	Apple, pear hawthorn etc 3	1
<i>Fraxinus excelsior</i>	Ash -	8
Total number of fragments	20	20

The charred plant remains were identified using a binocular microscope at x10 to x20 magnification. Twenty fragments of charcoal were randomly selected for identification, fractured and sorted into groups based on the anatomical features observed in transverse section at x10 and x20 magnification. Representative fragments from each group were then selected for further examination using a Meiji incident-light microscope at up to x400 magnification. Identifications were made with reference to Schweingruber (1990) and modern reference material. Nomenclature and taxonomic order follows Stace (1997).

All taxa identified were native to the British Isles and would have been locally available. All have good burning properties for use as fuel wood and, given the context types and the presence of cereal remains, it is likely that the deposits represent the dumped remains of domestic fires. All of the taxa represented at Mayfield Farm have been recovered from deposits of similar dates at nearby sites. Middle Bronze Age postholes from Grass Area 21 and Northern Taxiway (site codes GA00 and GAI 99; Fig 2) produced the same range of taxa. One sample was dominated by oak, the other by ash charcoal (Challinor in prep). Oak and ash are valuable sources of timber as well as firewood and their widespread use as fuel suggests that resources were plentiful in the area surrounding the settlement.

Five cereal grains and four glume bases recovered from posthole 5078 were identified as *Triticum spelta/dicoccum* (spelt/emmer wheat). One of the grains showed characteristics of *T. spelta* and there were glume bases amongst the chaff with characteristics of *T. dicoccum*. Whilst this cannot provide secure identification, it indicates that both species may have been present at the Site. A single grain-sized weed seed was identified as *Bromus* sp. (brome grass).

The lack of small weed seeds and the rarity

of chaff fragments suggest that the charred remains represent domestic refuse rather than crop processing debris. The general paucity of preserved remains limits interpretation but this problem is common for the period. The remains from Mayfield Farm are of interest as there are few identified examples of spelt wheat for the Late Bronze Age period. Samples from a waterhole at Perry Oaks produced waterlogged glumes identified as both *T. spelta* (spelt wheat) and *T. dicoccum* (emmer wheat). Radiocarbon dates for the *T. spelta* glumes produced a date of 1512 BC to 1202 BC, providing evidence for cultivation of both species of wheat at Perry Oaks during the Middle Bronze Age (Carruthers in prep).

In summary, the environmental evidence indicates that, during the Bronze Age, emmer and possibly spelt wheat were cultivated within the fields surrounding the Site, in common with sites lying on the Taplow terrace to the north. The charcoal provides evidence of a landscape in which trees such as oak and ash flourished in sufficient numbers to be exploited for a domestic fuel supply as well as for construction.

Late Iron Age and Roman (100 BC–AD 410)

The results of the evaluation confirmed that the Site lay on the periphery of a predominantly 1st- to 2nd-century AD rural settlement (Scheduled Monument LO61). The southern sector of the settlement, measuring some 45m by 30m, appeared to be defined by the southern margin of the upper (Taplow) terrace. A similar pattern was observed at Perry Oaks where the Late Iron Age and Roman settlement occupied an upper terrace and terrace edge, but did not extend to the lower terrace (Barrett *et al* 2001). The settlement at Mayfield Farm did not appear to extend westwards beyond a north–south aligned ditch (4504) located in Trench 45 (Fig 4). The ditch corresponds with a cropmark extending

north into the scheduled area (Fig 3), and was excavated where it crossed earlier Iron Age and Neolithic features (Cotton *et al* 1988). The arrangement of the Roman ditches appeared to have a similar alignment to an earlier Iron Age pattern, suggesting continuity of the main axis of landscape organisation.

An area of intense activity dating to the 1st and 2nd centuries AD, represented by a linear ditch, pits, and areas of cobbling and levelling, was exposed in Trench 46 (Fig 4). Numerous fragments of fired clay found in the fill of several features may have belonged to a demolished kiln or oven. Charred cereal grains and chaff recovered from samples taken from these features during evaluation suggest crop processing activity in the vicinity, possibly associated with an unlocated corndrier (Framework Archaeology 1998, 41–2). The limited scale of the archaeological investigations in this area of the Site precluded detailed characterisation of the Romano-British settlement, but the density of features may indicate that occupation of this nature covered a considerable area to the east of Trench 46.

The distribution of Roman period artefacts (pottery, ceramic building material, glass, and metalwork) was restricted to evaluation trenches located at the south-western edge of Scheduled Monument LO61. Pottery dating to this period was in relatively good condition, suggesting a lack of movement from the original point of deposition. Pottery was predominantly of 1st- to 2nd-century AD date but a few 3rd- to 4th-century AD sherds attest to a limited level of later activity in the vicinity.

The ceramic assemblage was dominated by coarse sandy greywares and grog-tempered wares representing a continuation of the native Late Iron Age ceramic tradition of the region (Table 3). No attempt was made to source the fabrics, but most were probably local products of potteries located in the Colne and Lower Thames valleys or of the early Alice Holt industry. Oxidised sandy wares, white slipped red ware and a few white wares, probably imported from the Verulamium region, were also recovered. Three pieces of South Gaulish samian (including a form 15/17 dish) and an amphora sherd from southern Spain were the only continental imports.

Although some of the grog-tempered sherds could be of pre-conquest date, their association with 'Romanised' sandy greyware fabrics sug-

gested a post-conquest date, probably within the range AD 50/60–100. Most vessel forms were common 1st-century AD types, including bead rimmed and necked and cordoned jars and distinctive 'Surrey/Atrebatian' bowls with girth cordons and grooved rims. A near complete small jar with a sharp mid-body carination, dating to the second half of the 1st century AD, is probably an imitation of a continental prototype (Going 1987, 29, fig 14, H10 1.1; Davies *et al* 1994, fig 137, 858 and fig 139, 889).

Later vessels included a triangular rimmed bowl sherd, a common Trajanic to Antonine form. Oxfordshire products, including a white colour-coated mortarium and an imitation samian form 38 bowl found in the levelling layers in Trench 46, were produced during the later 3rd to 4th centuries AD. Three thick-walled storage jar sherds, probably products of the Alice Holt industry, found in the latest backfill of pit 4603, may also belong to this period.

The small size of the assemblage restricts comparison with other collections found locally at Imperial College sports ground, Harlington (Wessex Archaeology 2000), Perry Oaks Sewage Works, Heathrow (Brown in prep), and Staines (Crouch & Shanks 1984; McKinley forthcoming). In general, however, the 1st-century AD group is broadly similar to contemporary material in these larger collections and the nature and condition of the assemblage are consistent with deposition of domestic refuse from Scheduled Monument LO61. The paucity of material dating to the mid-2nd century AD onwards suggests that the focus of activity shifted to a more distant location or continued on a much-reduced scale.

A small quantity of ceramic building material indicated the existence of a Romanised building somewhere in the vicinity. Three flat fragments may belong to *tegulae* or the smaller Roman brick forms (*lydion*, *pedales*, or *bessales*) used as flooring and as lacing and bonding courses in walls, hypocausts, and arches (Brodrigg 1987, 34–62). Other finds included a fragment of blue/green vessel glass, probably from the neck of a 1st- or 2nd-century AD bottle or flagon.

The ceramic evidence suggests that the settlement reached its peak during the late 1st to mid-2nd century AD. Deep features, partially infilled as rubbish or cesspits during this period, were subsequently back-filled and the site levelled with gravel. The levelling may be evidence that this sector of the settlement reverted to cultivation. Sherds of 3rd/4th-century AD pottery

Table 3. Pottery fabric totals by number and weight (g) for each feature (Evaluation Trench 46 only)

Feature	Context	PREHIST IMPORTS			OXFORDSHIRE WARES			OXIDISED WARES			GREY COARSEWARES				
		Flint-temp	Samian	Dress.20	Oxon cc	Oxon mort	VRWS	WSRW	Misc ox	Greyware	Grog-temp	Micaceous	Sand/flint	Total	
		No/Wt	No/Wt	No/Wt	No/Wt	No/Wt	No/Wt	No/Wt	No/Wt	No/Wt	No/Wt	No/Wt	No/Wt	No/Wt	
Subsoil	4602													2/10	
Pit 4603	4607		1/1				3/7		11/68	7/59				22/135	
	4608								9/114	3/34				12/148	
Layer	4609	1/7			1/24				1/3					3/34	
Pit 4611	4613								16/135					16/135	
	4614								19/203					22/217	
Layer	4618		1/2						2/56	1/8				4/75	
Pit 4622	4621		1/2	1/49			1/33	1/5	21/145	10/114				37/368	
Ditch	4623		1/2						12/186	25/741	4/28			43/965	
	4625								39/299	1/28		2/19		42/346	
	4626									5/120		1/4		6/124	
TOTAL		1/7	3/5	1/49	1/24	1/8	4/40	3/11	132/1219	53/1121	4/28	3/23		209/2557	

Key: Oxon cc = Oxfordshire colour coat; Oxon mort = Oxfordshire mortarium; VRWS = Verulamium region white-slipped; WSRW = white-slipped redware; misc ox = miscellaneous oxidise

and a fragment of a late Roman armlet, found in a gravel spread in Trench 46, provided a broad date for the final episode of levelling. The armlet was made from a fine copper alloy wire and the outer surface was decorated with continuous transverse grooves, producing a ridged effect. It resembles a 3rd- or 4th-century AD example from Colchester (Crummey 1983, 40, fig 44, 1676).

DISCUSSION

Archaeological investigations carried out in the Heathrow area over a number of years provide comparative evidence for the results of the work at Mayfield Farm (Fig 2). The most extensive of these, at Perry Oaks (WPR 98) (Barrett *et al* 2000; 2001) and Imperial College Sports Ground (IMC 96) (Crockett 2001), revealed evidence of an extensive landscape of Bronze Age field systems and settlements. Contrary to the conclusion drawn by Hull (1998) that large scale permanent settlement and land use was uncommon in the Middle Thames Valley until the Late Bronze Age, the Perry Oaks excavations demonstrated that division and enclosure of land in the vicinity of Heathrow Airport originated in the Early to Middle Bronze Age and developed through the Late Bronze Age. Other archaeological investigations at Heathrow, including Neptune Road (NEP95) and Nobel Drive, Harlington (NDH96), provided evidence for Late Bronze Age expansion of the field systems to the area north-east of Heathrow Airport (Elsden 1997). The results of the Mayfield Farm excavation corroborate the combined evidence for this phase of expansion. Middle Bronze Age burial activity and a Late Bronze Age unenclosed settlement were recorded at Prospect Park (PPK93) to the north-west of the airport (Andrews 1996).

Cropmark evidence had suggested that the pattern of extensive enclosure and settlement was confined to the Taplow terrace (RCHME 1997), but the evidence from Mayfield Farm demonstrates that the Bronze Age field systems spread further south onto the northern reaches of the Kempton Park terrace. This wider area of the Middle Thames Valley had clearly been transformed into an extensive and well-ordered landscape of fields and settlements during the Middle and Late Bronze Age. The recovery of grain seeds from the environmental samples at Mayfield Farm provides evidence for local cultivation of cereals and supports similar evidence from Perry Oaks (Barrett *et al* 2000;

2001), Grass Area 6c (GAI99) (Framework Archaeology 2000a), Grass Area 21 (GAA00) (Framework Archaeology 2000b), and Imperial College (IMC96) (Crockett 2001).

If these sites together formed part of a single major network of fields and settlements, it would mean that at least 12 square kilometres of present Hounslow Heath lay within an intensive agricultural and pastoral landscape. The original extent of this Bronze Age landscape has yet to be determined as Heathrow Airport and other modern developments probably obscure additional field systems and settlements. The work of transforming the pre-existing landscape would have represented a huge expenditure of labour organised within a well-ordered and structured social system.

The absence of Late Iron Age and Roman remains within the excavated area supports the findings of the evaluation that the field system complex and settlement of Scheduled Monument LO61 did not continue into the development area. They did appear, however, to extend slightly beyond the boundaries of the scheduled area. It is evident that an agricultural and pastoral economy continued during this period, although the structure was altered and alignments changed, and settlements were still scattered throughout the field systems. Whilst there is evidence for a levelling of the Mayfield Farm site in the 3rd and 4th century AD, it cannot be assumed that the entire field system visible as cropmarks in the area underwent a similar change of land use.

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AN EXCAVATION AT THE SIR JOHN ATKINS BUILDING, CAMPDEN HILL, ROYAL BOROUGH OF KENSINGTON AND CHELSEA

Timothy Bradley

With contributions by Mike Seagar Thomas, Berni Sudds, Barry Bishop and S P Toms

SUMMARY

An excavation at the Sir John Atkins Building, Campden Hill, in the Royal Borough of Kensington and Chelsea revealed a concentrated area of prehistoric and later activity cut into river terrace gravels in the up-slope part of the site. This included a large sub-rectangular feature and associated postholes and pits dating to the Early Iron Age. These features were slightly later in date than the Late Bronze Age 'burnt mound' identified at The Phillimore's site immediately to the south, but both suggest a continuity of occupation from the Late Bronze Age into the Early Iron Age. The Late Iron Age was represented by pits, stakeholes and gullies, as well as a north-south orientated ditch. Two Roman ditches were identified along broadly the same alignment. A probable plough soil sealed these features, from which unabraded early Saxon pottery as well as earlier residual material was recovered. The post-medieval period was represented by a re-cut 18th-century field/plot boundary ditch and a large gravel extraction pit. A small pit also yielded a homemade musket-sized gunflint dateable to between the late 16th and 19th centuries.

INTRODUCTION

The site was located at the Sir John Atkins Building, Campden Hill, Kensington, London W8 (TQ 2510 7985), and covered approximately 0.95 hectares. It comprised a number of buildings dating from the 1950s and 1960s, densely packed around a central courtyard. The only open areas which remained were three car-parks to the north-east, north-west, and south, access

ramps to the east and west, and a small central yard space. There was also a significant slope downwards across the site of approximately 4m from Campden Hill to the north to Sheldrake Place to the south. The site was bounded by housing to the east and Holland Park School to the west (Fig 1).

Prior to fieldwork a specification was prepared (Norton 2002a) and an evaluation was carried out in April 2002 (Bradley 2002). No archaeological deposits were found in the north-east car-park, east ramp, south car-park or central courtyard, which contained only modern made ground and hill-wash gravels, with extensive truncation associated with the construction of the standing buildings. In the north-west corner of the site, however, the Campden Hill slope appeared to level out to form a natural gravel terrace or platform, upon which some early human activity had clearly taken place. Archaeological Test Pits 2 and 3 revealed a number of intercutting man-made features, some of which contained large quantities of burnt flint. Iron Age pottery was also found. The subsequent excavation trench was therefore located in the north-west car-park area of the site. The area of excavation measured 9.5m north-south by 22.5m east-west and incorporated the area of Test Pits 2 and 3 (Fig 2).

Of crucial importance in understanding the nature and longevity of human activity in this vicinity are the results of the archaeological investigations also undertaken by PCA for

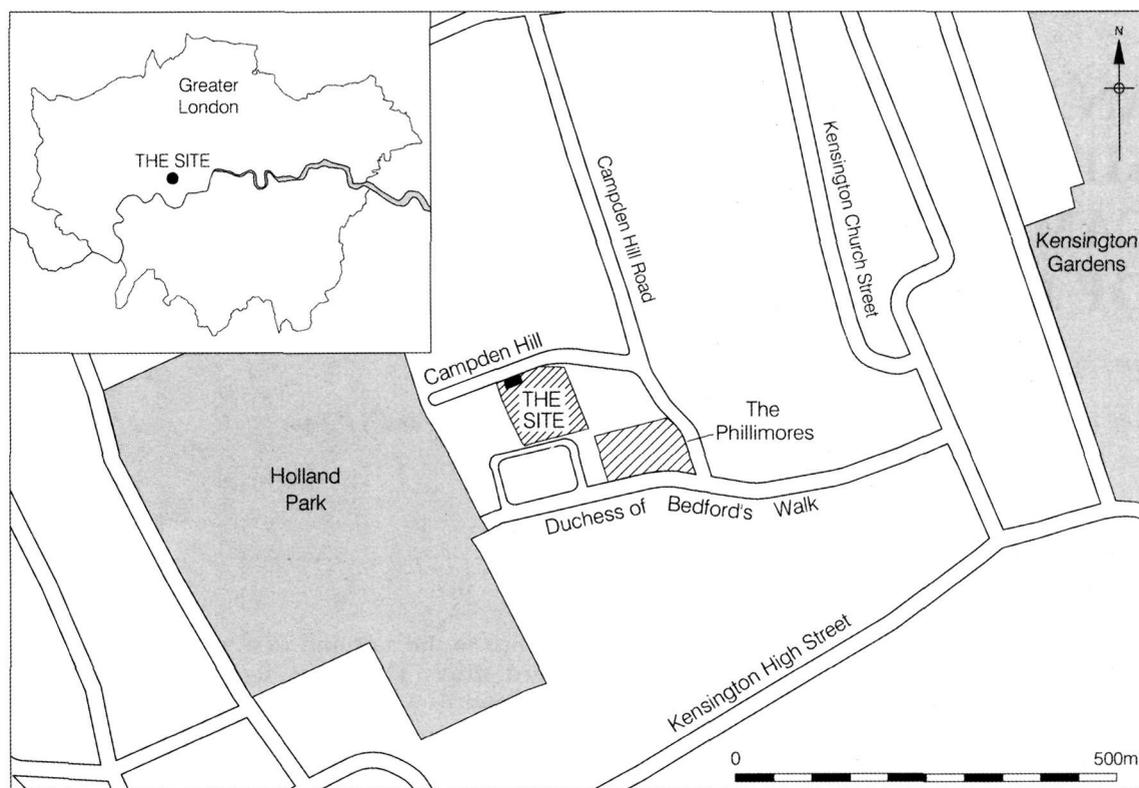


Fig 1. The site location

Phillimore Hill Limited in May 2001 at The Phillimores immediately to the south-east (Fig 1). While these have been reported elsewhere in detail (Moore *et al* forthcoming), the results are revisited here to show the findings of both sites in a wider context.

ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

The site is located on the southern side of Campden Hill, approximately 150m to the east of Holland Park. Due to the construction of the main building and its extensions, only the car-parks and the access ramp still reflected the natural slope of the hill at the time of excavation. The surface sloped down approximately 4m from north to south, at heights of between approximately 33m OD (north car-park) and 29m OD (south car-park). The underlying geology of the site is London Clay, overlain by superficial deposits of hill-wash clayey gravels

across the majority of the southern and eastern area. The latter appear to derive from the more substantial terrace identified to the north. This terrace is identified as Lynch Hill Gravel on Sheet 270 of the British Geological Survey, and was recorded at heights of between 32.25m OD and 31.87m OD.

Until very recently, little was known about the prehistory of the area. However, excavations immediately to the south-east of the site, at The Phillimores, have revealed prehistoric exploitation of a lower brickearth terrace which appears to be very similar in character to that recorded at the Sir John Atkins Building (Moore *et al* forthcoming). There, a number of stake- and postholes and cut features containing burnt flint and Late Bronze Age pottery have been interpreted as evidence of a 'burnt mound', several of which have recently been identified in the London region. Further evidence of prehistoric activity is scarce. Two early stone tools (Lewis 2000), two bronze weapons (Brown &

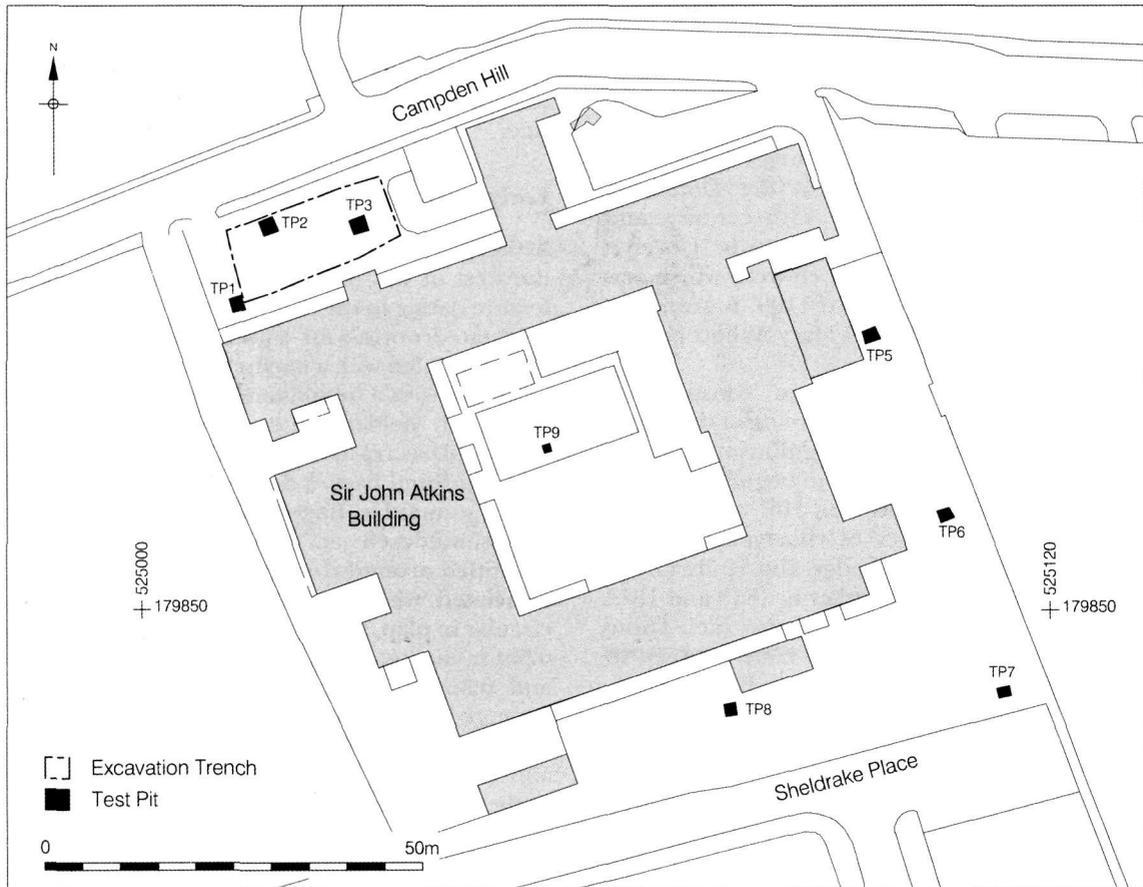


Fig 2. The trench and test pit locations

Cotton 2000a), and several residual sherds of Iron Age pottery (Partridge 1997) have been found in the vicinity, as well as a Late Bronze Age hoard (found in 1867) from around Kensington church, situated to the south-east. The hoard consisted of metalwork including horse-gear, axes, knives, gouges, and bits of scrap (Brown & Cotton 2000b) and has been dated to the Ewart Park phase of the Late Bronze Age, c.900–600 BC.

Two Roman roads are thought to have run westwards and traversed the Borough, extending from *Londinium*. One is thought to have exited at Newgate, and run along the course of Oxford Street, Notting Hill, Holland Park Avenue, and Goldhawk Road, whilst the other passed through Ludgate and is thought to be aligned with the Strand, Kensington Road, then Hammersmith and Chiswick (Margary 1955). The site lies half-way between, and 500m from, these routes and

would therefore have been situated in an area with considerable potential for small roadside settlements or farmsteads. As yet, no Roman settlements have been found in the Borough, although evidence of Roman occupation was recorded at 6–16 Old Church Street (Farid 2000), where investigations revealed an early Roman ditch and a slightly later pit. A possible Roman roadside ditch was also recorded at Earls Terrace, Kensington High Street (Douglas 2001), and considerable Roman settlement activity has recently been excavated in Hyde Park (Bradley 2003).

Evidence for the Saxon and medieval periods is also relatively scarce. The excavations at Earls Terrace produced remains of timber buildings dating to the late Saxon/early Norman period, which may have represented a farmstead or have been part of a larger manorial complex. Middle Saxon and Saxo-Norman features were also

identified at 6–12 Church Street, comprising boundary ditches, pits, and postholes. A probable medieval arable deposit was recorded at The Phillimores, immediately to the south. The presence of a settlement in Kensington during the Saxon period is suggested by the name *Chenesiton*, recorded in the Domesday Book, *Kensiton* in the early 13th century, and finally *Kensington* from 1235 onwards (Gover *et al* 1942). An early medieval church, which was probably in existence before 1100, is known to have occupied the site of St Mary Abbots church to the south-east.

The post-medieval landscape consisted of arable land with extensive quarrying of the gravel and brickearth deposits. Significant changes took place in the locality at the beginning of the 19th century, when Campden Hill was formerly laid out and a number of villa-type mansions were built. Thornwood Lodge and Holly Lodge (built by architect John Tasker in 1813 and 1814 respectively) were situated on the site. These were demolished during the 20th century to make room for the Sir John Atkins Building.

THE EXCAVATION

The evaluation produced a small pottery assemblage which was provisionally dated to the Late Bronze Age and was therefore thought to be broadly contemporary with the activity at The Phillimores. The more comprehensive sample provided by the open area excavation suggested

a more likely Early Iron Age date for the earliest phase of activity, however, although some of the struck flint may have represented residual material from as far back as the Middle Bronze Age.

Early Iron Age

A large sub-rectangular cut situated towards the west of the trench was the most significant feature dating to the Early Iron Age (Fig 4). It was orientated north-west–south-east and measured 3.85m by 2.3m with a maximum depth of 0.4m. It was filled with a homogeneous mid-brown sandy silt, which yielded pottery sherds belonging to the post-Deverel-Rimbury tradition, including a heavily gritted base, a finger-nail impressed rim, and the angular, finger-tip impressed shoulder of a shouldered jar. A series of postholes was identified around this cut, interpreted as being associated with it. These were generally sub-circular in plan, and measured between 0.3m and 0.5m in diameter, with depths of between 0.15m and 0.3m. The alignment of these postholes appeared to respect the north-west, south-west, and south-east sides of the rectangular feature, and it is likely that together they represent a timber framed structure, possibly a building, which would have had a ground plan of approximately 6.5m by 7m (Fig 4). Whilst the exact form and function of the building cannot be ascertained, the large rectangular feature may represent a storage pit within it. A shallow



Fig 3. Overview of site from top of Sir John Atkins Building, facing north

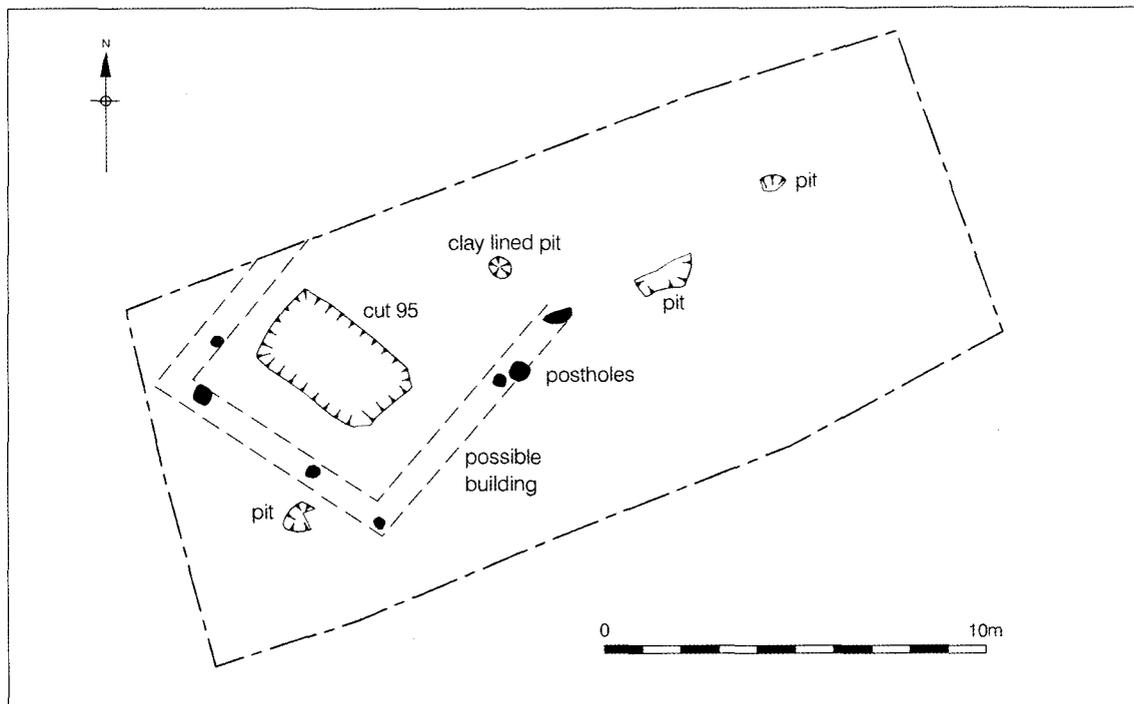


Fig 4. Early Iron Age features

circular feature was also recorded within the ground plan of the projected building. It had a diameter of approximately 0.5m and a depth of 0.14m, and had been lined with a 0.05m thick deposit of clay. This lining suggests that its function may have involved holding water; its small size would probably preclude its use as a cooking pit.

Three other features were recorded during the excavation which can tentatively be attributed to the Early Iron Age period. A sub-circular pit with a diameter of 0.85m was identified towards the south-west of the trench, with a slightly larger but truncated pit also recorded further to the east; both of these produced sherds of flint and coarse sand-tempered pottery. A small pit was recorded towards the east of the trench that was stratigraphically dated to the same period. Whilst the function of these pits was unclear, they provided further evidence of land use activity in the Early Iron Age.

The Late Iron Age

Features dating to the Late Iron Age were most numerous within the area of excavation.

A large north-south orientated ditch, [138], was found towards the east of the trench (Figs 5-6). It had a distinct V-shaped profile and was 1.9m wide and 0.81m deep. It was filled with a sandy silt which produced pottery including a sherd from a closed-mouth jar. Typologically this can be paralleled with vessels found at Bigbury (Thompson 1983), but jars of its general type in shell-tempered fabrics occur widely in, or, as in this case, directly below early Romano-British assemblages (Seagar Thomas below). The size of this ditch suggests that it would have been a fairly significant feature in the local landscape, most likely delineating a boundary.

Three large pits (approximately 1.5m in diameter) were located along the sides of the ditch. The southernmost of these, [110], produced pottery sherds, including those from a closed-mouth jar with bead rim, similar to that found in ditch [138], as well as a fired clay loom-weight. The northernmost of these three pits, however, was striking in that it yielded pottery sherds from a fine sandy bead rim jar (fabric Q2), which was distinct from both material recovered from the ditch and the other two pits situated along its edge. Two further jars in this

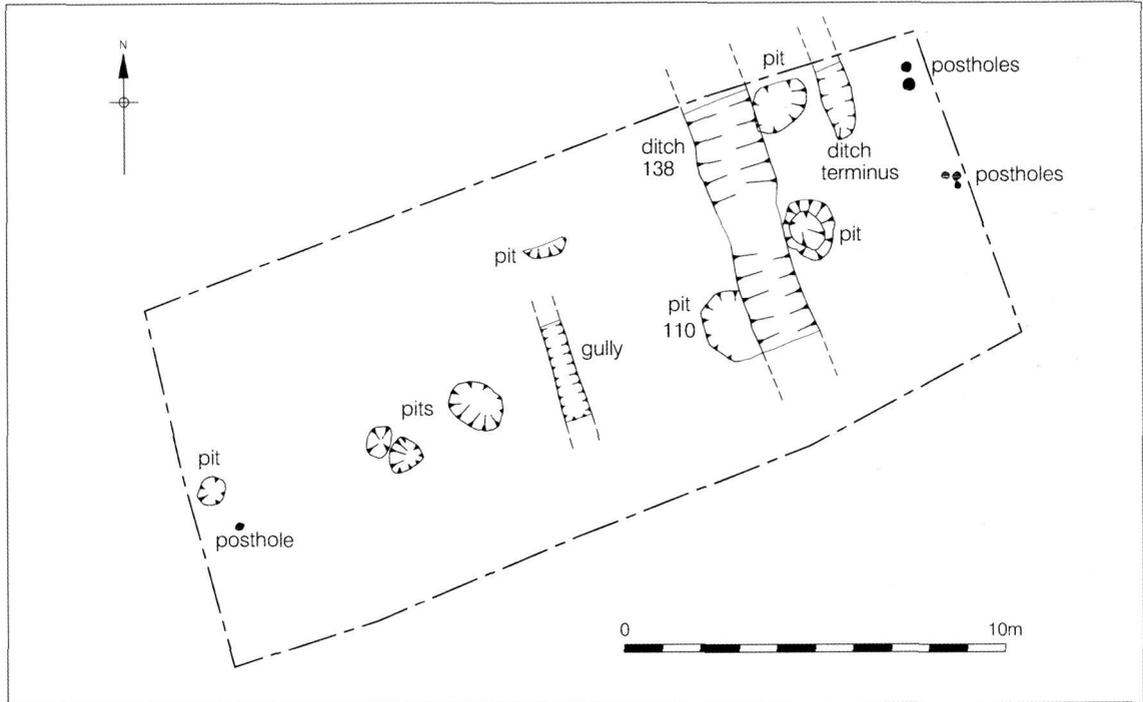


Fig 5. Late Iron Age features



Fig 6. Excavation of ditch [138], facing south

fabric and tradition were found in the overlying plough soil, and it is possible that they also originated from this pit. This distinct assemblage might suggest that the pit, whilst broadly falling within the same date range as other features from this phase, was not in fact coeval. Several other pits were located towards the central and eastern areas of the trench, which all produced pottery dating to the late 1st century BC. They may have been used for storage, or possibly the disposal of rubbish.

A timber structure, or structures, was indicated by several postholes located along the extreme eastern side of the trench. Although the evidence was slight, they have been dated to one phase of activity because of their positioning. Whilst the exact nature of the structure(s) they represent cannot be ascertained with any certainty, their closely set groupings may represent the two western corners of a structure extending to the east. A ditch terminus and smaller gully were also attributed to this phase of activity, although, again, the dating evidence was meagre, and the only certainty is that stratigraphically they predated early Roman features.

Roman

Early Roman

A further north–south ditch, [148], was identified towards the east of the trench, although it was truncated across the middle and at its southern end by late post-medieval features (Fig 7). It was 1.36m wide and approximately 0.2m deep, and was filled with a dark brown sandy gravelly silt which yielded abraded Late Iron Age pottery, as well as four sherds from a South Gaulish Samian Dr 18 platter (*c.*AD 43–90) and several sherds of early Roman greyware. This ditch is likely to represent a later re-cut of, and extension to, the Late Iron Age ditch terminus (Fig 5). It certainly respects the same alignment, and may be associated with marking the same boundary. No other 1st-century AD features were identified within the area of the trench.

Later Roman

An ovoid pit, which was recorded truncating ditch [148], produced a truncated jar in Thameside greyware. The lack of a rim made precise dating impossible, but the fabric was of a type normally associated with the period *c.*AD 150–270.

The Late Iron Age boundary ditch [138] (Fig 7B) also appeared to have been re-cut in the later Roman period. Although originally excavated as the secondary fill of ditch [138], the re-cut was subsequently recorded in section; it was filled with a silty sand which produced a single sherd from a developed beaded and flanged bowl in greyware, and a shattered but reconstructable bowl in Oxfordshire red colour-coat ware. The latter was unusual in being stamped in the samian manner, and probably dates to *c.*AD 270–300. Again, it is likely that this ditch represents a reaffirmation of broadly the same boundary represented not only by the Late Iron Age ditch, but also the early Roman ditch situated immediately to the east, suggesting almost continuous occupation of the site throughout this time.

Saxon(?)

A possible plough soil, which was composed of a charcoal flecked, dark brown gravelly silt with a maximum thickness of 0.3m, sealed all these features. Pottery from this layer included both Late Iron Age and late Roman sherds, suggesting that ploughing had disturbed the underlying features and deposits. Fragments from a jar

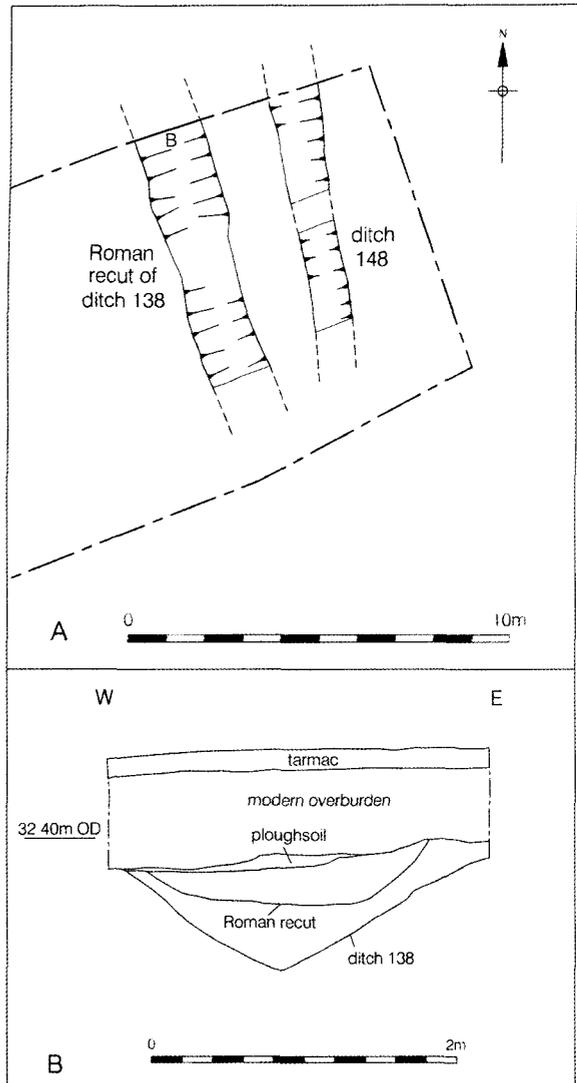


Fig 7. A. Roman features; B. South facing section through ditch [138]

of probable early Saxon date were recovered, potentially dating the layer to the Saxon period. The lack of pre-18th-century features suggests that agricultural activity continued in the area well into the 18th century.

Post-medieval

Several features were recorded which were cut through the plough soil, and these were generally characterised by their less leached out appearance, being darker in colour than deposits

from earlier phases. An east–west orientated ditch/gully, which was later re-cut, was recorded extending across the middle of the trench; this is likely to have delineated the boundary between two fields or plots. A large amorphous feature was also recorded across the northern edge of the trench and extending beyond the limit of excavation. The size and depth of this pit, 8.5m across by 0.92m deep, would suggest that it represented gravel extraction activity. Rocque's map of 1746 certainly indicates that quarrying occurred in the area in at least the mid-18th century, and its location on the gravel terrace next to the access road provided by Campden Hill would make it ideally placed for this. Dating evidence suggests that both the field boundary ditches and the quarry pit were backfilled in the late 18th century, presumably in order to level the ground prior to the construction of villas during the early 19th century.

A small pit was also recorded towards the south-east of the trench, the fill of which contained a large amount of very degraded bone. It was most notable, however, for producing a homemade musket-sized gunflint dateable to between the late 16th and 19th centuries.

THE FINDS

Late prehistoric pottery (Fig 8)

Mike Seager Thomas

The Phillimore's site produced the first stratified assemblage of prehistoric pottery to have been recovered from the Kensington area. As only the second, the present assemblage provides a welcome opportunity to examine a range of associated Greater London prehistoric pottery forms and fabrics. Such study is essential if we are fully to understand the development of the region during the period, for, by adding to our detailed knowledge of Greater London prehistoric pottery, it improves its chronological resolution and so helps contextualise the sites which yielded it. The prehistoric assemblage comprises 163 sherds weighing 1721g; many of the sherds are from Roman or later contexts or belong to small context assemblages only, but sufficient were associated for the group as a whole to be interpretatively useful. On the basis of its internal associations — both fabric and typological — and comparisons with pottery from other sites, the assemblage can be shown

to belong to two widely separated prehistoric periods: transitional Late Bronze Age/Early Iron Age, dated to around the 7th century BC, and later pre-Roman Iron Age, dated to the last centuries BC and the first century AD. Overall it indicates a significant, if interrupted, occupation of the site during the later prehistoric period.

Interpretative context

The earlier of the two prehistoric groups represented in the Sir John Atkins Building assemblage comprises pottery belonging to a late phase of the post-Deverel-Rimbury pottery tradition. For the Thames Valley this tradition has been discussed in detail by Barrett (1980). The published Greater London site assemblages to which the present group is most closely related are those from Bermondsey (Sidell *et al* 2002), Snowy Fielder Lane, Isleworth (Timby 1996), and Heathrow Airport (Canham 1978). The post-Deverel-Rimbury assemblage from The Phillimore's (Moore *et al* forthcoming) is slightly earlier. Locally relevant later Late Iron Age traditions have been discussed by Harding (1972), Cunliffe (1991), and Thompson (1982). Although the developmental sequence of this material is clear, its calendar dating within the later Iron Age is not, and the 'age system' nomenclature applied to it differs from assemblage to assemblage, hence the adoption here of the term later Iron Age. Owing to the lack of prehistoric pottery from Greater London, the following discussion is based largely upon the assemblage's internal relationships and comparisons with typologically/fabric similar pottery from the immediately surrounding counties.

Fabric analysis

The assemblage comprises ten fabric types. The principal inclusion types present are burnt flint, quartz sand, and shell. Five fabric types occur in chronologically diagnostic forms, which have closely dated regional parallels, or were consistently associated on site with typologically dated material. One belongs to the Late Bronze Age/Early Iron Age only and four to the later Iron Age only. The Late Bronze Age/Early Iron Age fabric type comprises a very coarse ware, whilst the later Iron Age fabric types represent fine, intermediate and coarse wares. The remaining five fabric types, which include both intermediate and coarse wares, have Late Bronze

Age/Early Iron Age and later Iron Age parallels in off-site assemblages. Accordingly, none can be dated precisely. Fabrics from features with prehistoric *termini post quem* are quantified in Table 1, fabrics from features with Romano-British or later *termini post quem* in Table 2.

Pottery typology

Early first-millennium BC pottery

A single group of feature sherds belonging to the post-Deverel-Rimbury pottery tradition comes from pit 95. It includes a heavily-gritted base (in fabric F1), a finger-nail impressed rim, the angular, finger-tip impressed shoulder of a shouldered jar, and a combed body sherd. Feature sherds were also residual in pits 18 and 71, and the plough soil. Although combing and heavily-gritted bases were long-lived, collectively the ‘decorated’ forms which comprise most of these sherds are characteristic of later rather than earlier post-Deverel-Rimbury traditions. Parallels for them are present in the Greater London late post-Deverel-Rimbury assemblages (eg Timby 1996), and they occur in assemblages from regional sites such as Petter’s Sports Field, Egham (O’Connell 1986), and

Orsett causewayed enclosure (Barrett 1978). Radiocarbon dates associated with ‘decorated’ post-Deverel-Rimbury pottery focus on the 7th century BC or the LBA/EIA (Needham 1996). This makes the present assemblage slightly later than that from the nearby Phillimore’s site.

Later first-millennium BC and early first-century BC pottery

The later Iron Age assemblage includes one vessel paralleled in an assemblage from Bermondsey, where it is dated to the Middle Iron Age (Sidell *et al* 2002), and all have parallels in later Iron Age assemblages from outside Greater London. Key amongst the latter is Bigbury where vessels similar to all three forms are associated with early grog-tempered wares (Thompson 1983). These date to the first part of the Late Iron Age. Also notable are parallels in a slightly earlier assemblage from Cassington, Oxfordshire (Harding 1972). Their Romano-British associations probably place them in the first century AD.

Importance of the assemblage

When we look at early first-millennium BC pottery use in the area, two things immediately

Table 1. Quantification and dating of pottery from contexts with prehistoric *termini post quem*

Italics = sherd groups incorporating Late Bronze Age/Early Iron Age feature sherds; underlined = sherd groups incorporating later Iron Age feature sherds

Fill Cut	50	91	94	117	123	129	109	137	151	Fabric date
	N/A	92	95	118	124	130	110	138	152	
<i>F1</i>	0	0	5	0	0	0	0	0	0	LBA/EIA
	0	0	73	0	0	0	0	0	0	
<i>F2</i>	0	2	23	2	0	5	0	2	0	
	0	4	<u>136</u>	8	0	17	0	7	0	
<i>F3</i>	0	1	6	0	0	0	0	1	0	
	0	1	28	0	0	0	0	13	0	
<i>Q1</i>	2	1	2	0	1	4	2	1	0	
	5	1	23	0	1	3	43	8	0	
<i>S1</i>	0	0	1	0	0	0	1	0	0	
	0	0	5	0	0	0	29	0	0	
<i>S2</i>	0	0	1	0	0	0	1	0	0	
	0	0	2	0	0	0	16	0	0	
<i>Q2</i>	0	0	0	0	0	0	0	0	<u>1</u>	
	0	0	0	0	0	0	0	0	<u>23</u>	
<i>Q2F</i>	0	0	0	0	0	0	1	0	0	
	0	0	0	0	0	0	9	0	0	
<i>S3</i>	0	0	0	0	0	0	<u>5</u>	<u>2</u>	0	
	0	0	0	0	0	0	<u>16</u>	<u>24</u>	0	
<i>Fe</i>	0	0	0	0	0	0	12	1	0	
	0	0	0	0	0	0	53	18	0	
Context	LBA/EIA						Later IA			
TPQ										

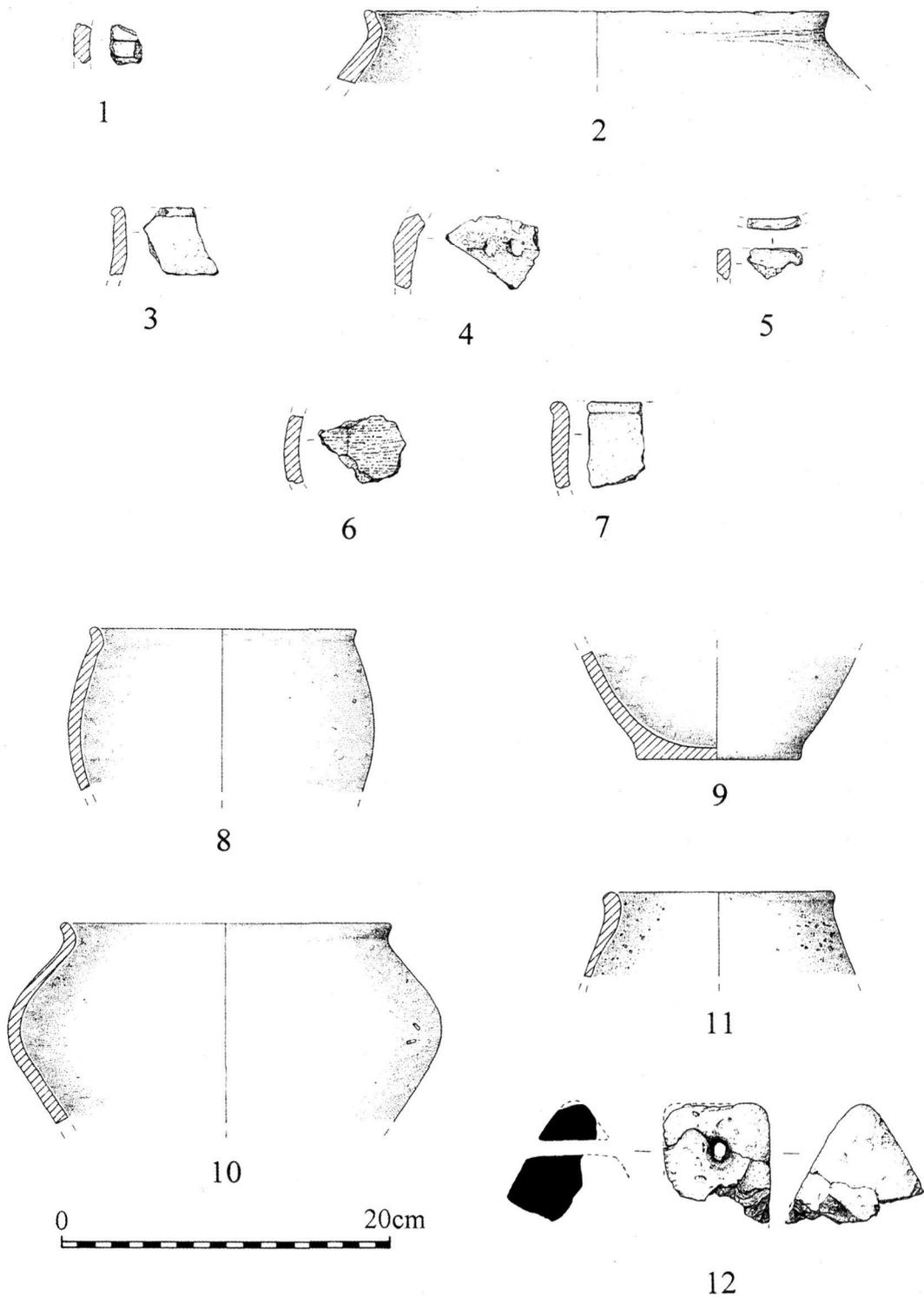


Fig 8. Iron Age pottery (Nos 1-6: Late Bronze Age/Early Iron Age; Nos 7-11: Late Iron Age) and loom-weight

Table 2. Quantification of prehistoric pottery from features with early Romano-British or later *termini post quem*

Fill	Prehistoric sherds			Context TPQ
	Qty	Weight in grams	Fabric/form	
2	4	13	F2, F3	post-medieval
3	2	9	F2, F3	post-medieval
52	3	5	Q1	ERB
62	32	824	F1, F2, Q1, Q2	RB/PM
64	1	2	Q1	post-medieval
70	5	134	F2, F3	post-medieval
101	6	25	F2, F3, Fe/U	RB
136	12	53	F1, F2	ERB
145	12	90	F2, Q1, Fe/U	RB

stand out. The first is that while Kensington was occupied for an extended period, it may not have been occupied in any one area continuously. By contrast, the later Iron Age/early Romano-British occupation displayed considerable continuity. The second is that, although activity was not continuous in any one area, the pottery identifying it — both at the Sir John Atkins Building and at The Phillimore — fits well into a far-reaching and developing tradition, even to the extent of the fabrics comprising it. Early first-millennium BC Kensington was not isolated culturally. No doubt shifting settlement was part of the same culture. This contrasts with evidence from an unpublished excavation on a post-Deverel-Rimbury site at Newbury Park, Redbridge, but it is consistent with evidence from many sites outside Greater London which show shifting settlement to be the norm at this period. The evidence of the later Iron Age/early Romano-British pottery for continuity of settlement and sudden changes in domestic fashion in pottery reflects a rather different, much more modern tradition.

Ceramic weight (Fig 8)

Berni Sudds

Two fragments from the apex of a triangular ceramic weight were recovered from the fill of a Late Iron Age pit, [110]. Contemporary and earlier examples in the Greater London region have been recovered from Bermondsey Abbey (Rayner 2002), Warren Farm, Romford (Greenwood 1997), and an earlier Middle Iron Age example from Caesar's Camp, Heathrow (Grimes & Close-Brooks 1993).

The two fragments conjoin to form one of three original apexes. More complete examples

from Warren Farm and Bermondsey Abbey demonstrate two or three pierced holes, but it is not possible to determine what type is represented here as only one hole survives (Greenwood 1997; Rayner 2002). The fabric of the weight is fairly fine and sandy (clear, white and grey, sub-angular to rounded quartz up to 2mm) with occasional coarse flint and quartz inclusions. Red iron oxide is also evident in addition to rare organic inclusions. The example has a reduced grey and orange/brown core and oxidised mid-orange surface.

Triangular forms are typically Iron Age in date (Foster 1986; Greenwood 1997; Grimes & Close-Brooks 1993; Poole 1984; Rayner 2002) and are commonly interpreted as loom-weights. Other possibilities, including thatch or door weights, have also been considered (Poole 1984, 406).

Flint

Barry Bishop

Fragments of burnt flint were recovered from many contexts across the site, datable from the Early Iron Age onwards. It had all been burnt, consistent with deliberate fire damage, and, although only moderate quantities were recovered from any particular context, it was spread persistently throughout the site, possibly originating within the original soil horizons.

The extent of the spread and the consistency of its burning suggests that it may not have resulted solely from incidental hearth use, and may have originated from more specialised activities. Such an interpretation is of interest as this may indicate the continuation of the type of processes recently identified at The Phillimore's 'burnt mound' site, either a contemporary spatial continuation of the activities there or, if

associated with the slightly later Early Iron Age occupation identified at this site, a chronological continuity in the kinds of activities that were being pursued.

The struck flint assemblage consisted of three flakes, two cores, and a possible core tool. One of the flakes, recovered from a post-medieval pit, consisted of a homemade musket-sized gunflint dateable to between the late 16th and 19th centuries.

All of the other struck pieces were manufactured from gravel pebbles, presumably obtained locally. Both cores consisted of small rounded pebbles. One, from context [02], had only two flakes removed, the other, from context [52], was more extensively reduced, utilising two platforms. No attempts at platform preparation were apparent, although many incipient Hertzian cones from failed attempts at flake removal were visible. The two remaining flakes, from contexts [02] and [109], reflected the crude reduction style of the cores, being small and squat and without any evidence of systematic production. The core tool, from context [52], was made by steeply retouching a thermal chunk, making a possible scraping type implement. These pieces all demonstrated a very opportunistic and expedient approach to flint working, involving the selection of an easily available pebble and hitting it until either it, or one of the resultant flakes, produced an adequate working edge.

The size of the assemblage precludes either confident dating or interpretation of the nature of the activities represented. Nevertheless, the assemblage would be most characteristic of industries dating to the end of structured flint working traditions, from about the Middle Bronze Age and after, and could easily be contemporary with either the Late Bronze Age or Early Iron Age activity identified in the area.

The burnt flint as well as the struck flint, whether originating from local domestic activity or as part of a continuation of the slightly earlier activity identified from The Phillimores, adds important new data to the very limited knowledge of the later prehistoric occupation of the area.

Luminescence dating report

P S Toms

Three burnt flint samples were submitted for thermoluminescence dating. Unfortunately, during the post-excavation process it was found that

one of the samples (Lab Code GLO13) derived from the plough soil, [62], the reworked nature of which suggests flint extracted from this level may not be in primary context. The results of this sample are therefore not considered here. The other two samples came from fill [101] of Late Iron Age pit [102], and fill [109] of a similarly dated pit [110]. They were taken to provide dating evidence additional to that provided by the pottery as the ceramic dating for this period requires improvement. The dates arrived at for the samples are shown below:

Context	Lab Code	Age	Error	Date
109	GLO3012	7045	870	5912–4172 BC
101	GLO3014	2840	335	837–502 BC

An assessment of the accuracy of the dates obtained has been made within the context of the potential existence of residual datable signals subsequent to burial, due to pre-burial exposure to an attenuated thermal regime, generating age overestimates. The datable luminescence signal in flint is associated with the thermoluminescence peak at 380°C and the complete removal of this signal requires a firing temperature of ~450°C. An estimation of the firing temperature of burnt flint prior to interment can be made through signal analysis comparing a natural and additive-dose thermoluminescence response. If the firing temperature prior to interment were sufficient for complete removal of the 380°C thermal signal then a plateau in ratio values should exist for the breadth of 300°C to 450°C.

The change in natural to additive-dose thermoluminescence ratio with temperature exhibits a large amount of random variation principally generated by the low doses and/or low signal sensitivity to dose associated with each sample. However, a systematic rise in this ratio with temperature above ~360°C for GLO3012 and GLO3014 suggests the final firing temperature of these two samples was $\leq 360^\circ\text{C}$. The evidence on the whole suggests that a residual thermoluminescence signal was present after final firing and that the age estimates derived from each sample should only be considered maximum ages. Unfortunately therefore the technique did not improve the dating framework for the site.

DISCUSSION AND CONCLUSIONS

Until the recent excavations at The Phillimores site immediately to the south, little was known

about the prehistory of the area. Indeed the paucity of known sites in Kensington is particularly striking when compared with other London boroughs along the Thames. The quantity of archaeological features, pottery, and food debris recovered from The Phillimores was slight, but the combined presence of large quantities of burnt flint, pits, and a water source suggest it may have been a 'burnt mound' site. 'Burnt mound' sites have been interpreted as evidence for cooking activities (Barfield 1991; Ramseyer 1991), sweat lodges or saunas (Barfield & Hodder 1987), and textile production (Jeffery 1991), as well as a range of other activities (Barfield & Hodder 1987). Clearly the level of confidence to be placed in the identification of the particular pursuits linked to any 'burnt mound' site is dependent on the extent of the area exposed and the associated assemblages. A pit with a small placed deposit of Late Bronze Age date was found with the 'burnt mound' evidence at The Phillimores (Moore *et al* forthcoming). The fact that a 'burnt mound' was in the vicinity of the Sir John Atkins site during the Late Bronze Age may therefore reflect a variety of activities but probably included a ritual aspect.

Whilst the earliest occupation recorded at the Sir John Atkins Building site is slightly later in date, it does suggest significant, if perhaps interrupted, use of the area in the later prehistoric period. Despite the absence of previous archaeological evidence to support this, geographically and topographically it is less surprising. Generally speaking the location of Late Bronze Age and Early Iron Age sites in the London area varies little, with most known sites and settlements being on Thames brickearth and gravel terraces less than 40m above sea level (Greenwood 1997), as is the case at both The Phillimores and the Sir John Atkins Building.

Unlike The Phillimores, however, at the Sir John Atkins Building the concentration of Early Iron Age features which can be broadly associated with some form of settlement activity was relatively high, given the comparatively small size of the excavation area. Of particular note was the rectangular structure of post-fast construction, housing a large rectangular pit. Structural evidence for the Early Iron Age in London is sparse, although increasing with finds at Heathrow Airport Terminal 5 and Perry Oaks. Rectangular buildings are more generally associated with the Late Iron Age (Sealey 1997). Perhaps the most likely interpretation for a

structure such as this is as a granary, suggesting localised agricultural exploitation of the landscape.

The lack of evidence for Middle Iron Age activity on the site appears to suggest a hiatus in the use of the area at this time, perhaps indicative of shifting settlement activity. However, given the location of the site on what was presumably a fertile, well drained and easy to work soil which had previously been occupied, a complete cessation of occupation in the general location of the site, especially along the gravel terrace, seems unlikely. This lack of archaeological evidence for the Middle Bronze Age is perhaps better explained by the small area of the excavation. It is worth noting that the excavation was situated on the southern edge of the gravel terrace, and the relatively flat plateau of land immediately to the north may have been the centre of occupation in any period.

The Late Iron Age is characterised, among other things, by increased evidence for the organisation and exploitation of the agricultural landscape (Haselgrove *et al* 2001), and linear boundaries, field systems, pit alignments and isolated pits are all indicative of such activity. Archaeological evidence for the Late Iron Age at the Sir John Atkins Building included at least one boundary ditch, as well as possible pit alignments, which may therefore be indicative of further agricultural exploitation of the area. That this occupation included domestic activity is confirmed by the presence of both shell- and sand-tempered jars, as well as a fired clay loomweight.

Archaeological evidence from the site suggests a continuity of occupation between the Late Iron Age and the early Roman period. A 1st-century AD boundary ditch was identified immediately to the east, but along the same north-south alignment as the Late Iron Age ditch, which was itself then re-cut in the later Roman period. This sequence would suggest a time-transgressive concern with marking the same boundary, and therefore probable continued occupation of the site. A single pit was also recorded from the later Roman period that may have been associated with the boundary ditch immediately to the west. The truncated jar in Roman greyware which was recovered from it may have been deliberately placed, reflecting concerns with marking this boundary. Indeed, it has been suggested that when pits are accompanied by ditches this may constitute a plot of land, separated by lanes

and/or a field boundary (Wilson 1995). It is interesting to note that all the ditches identified during the excavation were aligned at exactly a right angle to the route of Campden Hill. This may suggest that there has been a track or road there since at least the Late Iron Age, utilising the line of the gravel terrace, perhaps with fields or plots extending from it.

The presence of agriculturally worked soils suggests arable farming was carried out in the area in the post-Roman period, and the presence of probable Saxon pottery from within this layer also indicates domestic activity in the vicinity. A similar medieval plough soil was recorded sealing the prehistoric features at The Phillimores. There is then a break in the archaeological record for both sites until the 18th century, when plot boundary ditches suggest increased horticultural activity, and a gravel extraction pit next to Campden Hill may indicate resurfacing of the road prior to, or during, the formal laying out of the area for villas in the early 19th century.

Until recently archaeological evidence for this area of Kensington was very limited, and for the prehistoric period, other than a few chance finds, non-existent. The excavations carried out at The Phillimores and the Sir John Atkins Building have therefore provided important new evidence for extended occupation of this area of Kensington from the Late Bronze Age through to the Roman period. The development of these sites has revealed exploitation of Thames brickearth and gravel terraces along the southern slope of Campden Hill. Whilst the areas of excavation have been relatively limited, it is clear that late prehistoric and Roman Kensington was not isolated, and it fits well with the developing regional cultural traditions throughout this extended period of occupation.

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EXCAVATIONS AT DOLLIS HILL, BRENT

David Sankey

With contributions by John Giorgi, Alison Nailor, Susan Pringle, and Louise Rayner

SUMMARY

Excavations at Brook Road, London NW2, on the crest of Dollis Hill, revealed the first archaeological evidence for Iron Age occupation in Brent. Evidence of late Roman farming and quarrying was found in the form of field ditches and large pits. Building material, quernstones, burnt grain, and domestic pottery indicated the proximity of farm buildings and a resident population. Subsequently the hilltop was quarried for sand in the medieval and Tudor periods. Finds of the Late Bronze Age to Early Iron Age are the first of their kind in Brent and make an important contribution to archaeological knowledge of this area of London.

INTRODUCTION

The Museum of London Archaeology Service (MoLAS) undertook an archaeological investigation in April 2000 at the site of 92 Brook Road, Neasden, London NW2, in the London Borough of Brent (Ordnance Survey reference 52240 18630; Fig 1). The work was commissioned by Thames Water plc in advance of the construction of a covered reservoir. Excavation followed a programme of trial work that included 32 evaluation trenches across the whole development site. The evaluation indicated that Roman cut features survived in the southern third of the site and consequently three areas targeted on these features, and covering 1883m², were excavated between 30 May and 30 June 2000 (Fig 2). In this report context numbers in the text are shown thus: [1]; sample numbers are shown thus: {1}; and accession numbers given to certain

artefacts from the site are shown thus: <1>. Illustrated pottery sherds are referenced thus: <P1>. The archaeological fieldwork has been

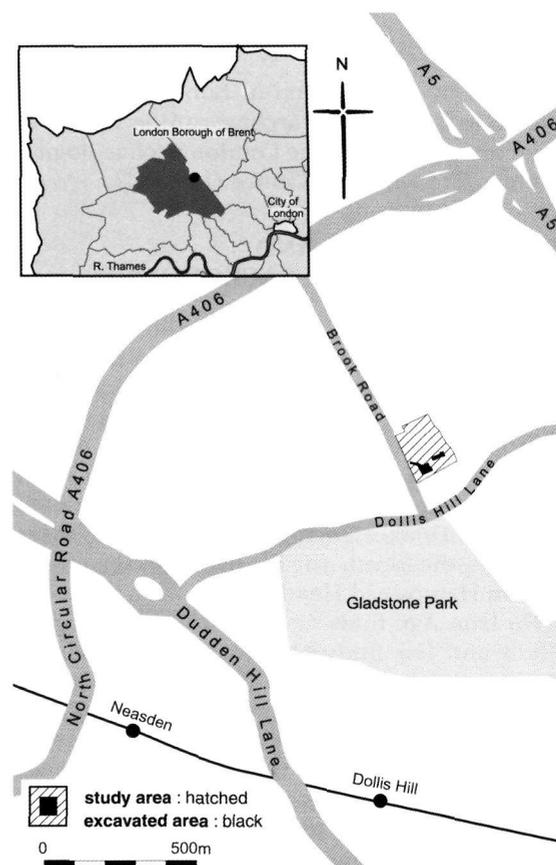


Fig 1. Site and trench location (Scale 1:25,000)



Fig 2. View of the site under excavation, from the south

archived by the Museum of London under the site code BKO00. The archive can be viewed by prior arrangement at the London Archaeological Archive and Research Centre (LAARC).

TOPOGRAPHICAL AND ARCHAEOLOGICAL BACKGROUND

The site lies on the crest of a hill at between 72m and 76m OD and is capped by a high-level terrace gravel, the Dollis Hill Gravels, that varies in composition with yellow to black pockets of flint gravel and pure sand. The Gravels overlie the weathered surface of London Clay. The River Brent and its tributaries, along with tributaries to the River Thames, surround Dollis Hill on three sides. On the fourth side is a dry valley separating it from Hampstead Heath (Fig 3).

No Iron Age finds have been recovered from Brent and few findspots of prehistoric pottery are known from this area, although Bronze Age metalwork has been found at Neasden (Fig 3; MoLAS 2000, 94, nos BT1 and BT2).

The nearest Roman remains are flint walls from a possible villa site at Salmon Street, west of the Brent (Welsh Harp) reservoir (Fig 3; Sheldon & Schaaf 1978, 84, no. 4), and Roman pottery from Old Church Lane and St Andrews Church where building material was also found (Fig 3;

MoLAS 2000, 162, nos BT2–5). Both of these sites are 2km or more distant. Watling Street, the Roman road from London to North Wales and the North-West of Britain, runs through the dry valley along the line of Edgware Road. Dollis Hill appears to have remained open land until it was enclosed for pasture in the 19th century. A Post Office research station was constructed between the Wars and Brook Road was built. It was used as an emergency war headquarters during World War II, when radio masts were constructed on the site. It is thought that the crest of the hill may have been truncated around this time to produce a flat surface for their construction.

THE SITE SEQUENCE

Early Iron Age (Period 1)

A short stretch of ditch (Ditch 1, Fig 4) and a small pit (Open Area 1, Fig 4) were both filled with an homogeneous grey silt-sand and both produced a quantity of Iron Age pottery (<P1>–<P6>, Fig 9). The fill of Ditch 1 also included a sherd of Roman pottery and both Ditch 1 and the pit contained a small quantity of Roman building material and Hertfordshire puddingstone. However, Ditch 1 had 34 sherds of prehistoric pottery suggesting that the Roman

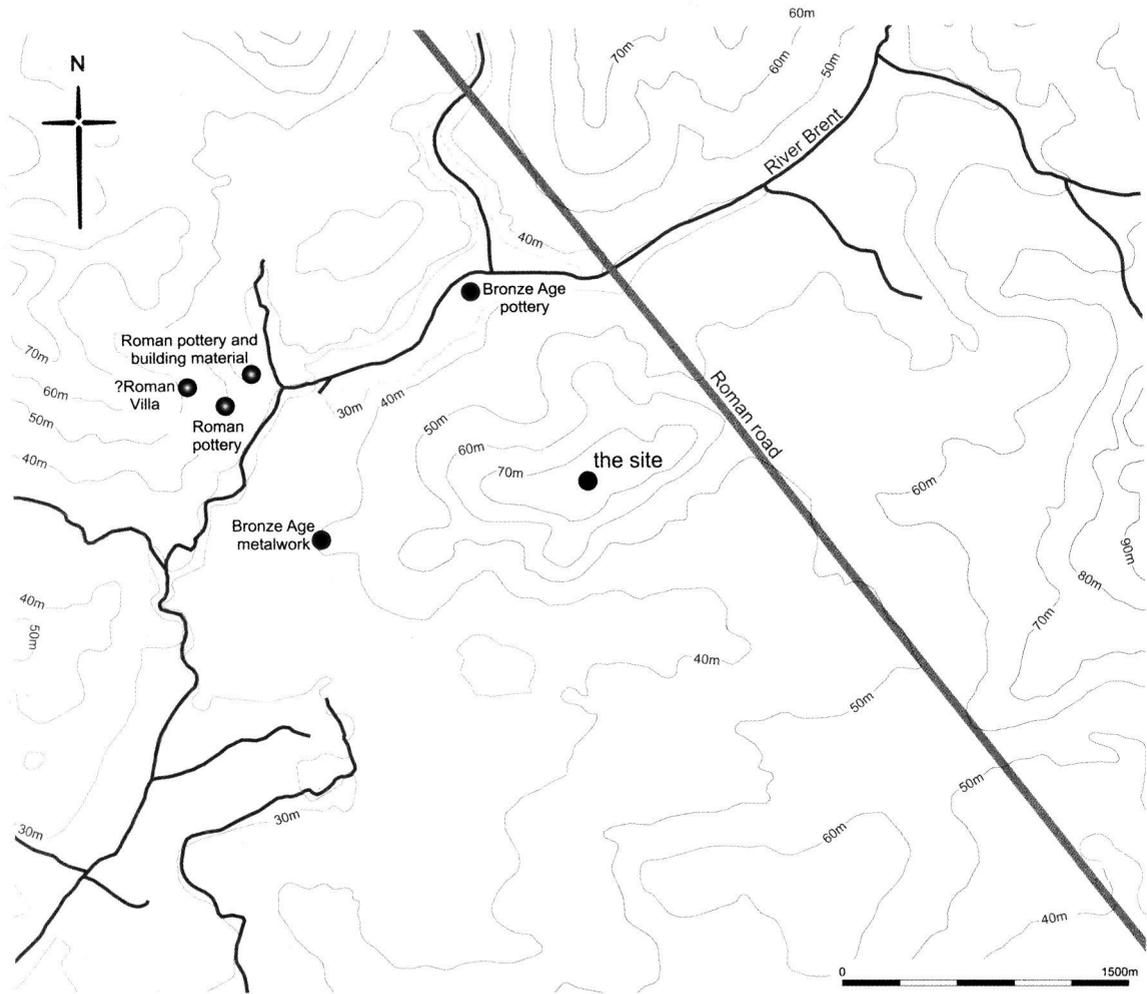


Fig 3. Site in relation to the modern topography and rivers showing the nearby Roman road and location of Bronze Age and Roman finds (10m contour interval; scale 1:40,000)

material may have been intrusive rather than the prehistoric pottery being residual. The evidence is also somewhat ambivalent since the ditch is on the same alignment and slightly south of the projected line of a late Roman ditch (Ditch 3, Fig 5).

Late Roman (Period 2)

The largest group of archaeological remains was dated to the late Roman period (Period 2). Most finds are dated consistently later than AD 250, often later than AD 270. Finds of the 1st and 2nd centuries AD were either residual or

reused items. Two distinct types of features were recorded: sand quarries and ditches (Fig 5).

Quarries (OA2)

The quarries (Fig 5, Open Area 2) are *c.*5.0m in diameter and originally would have been *c.*2.0m deep; they were presumably dug for the extraction of sand. The backfills were largely sterile with only the occasional find, including building material, pottery, an iron sheet <2>, and a fragment of a fine-grained sandstone hone <3>. The hone is somewhat larger than those normally kept for personal use and may have

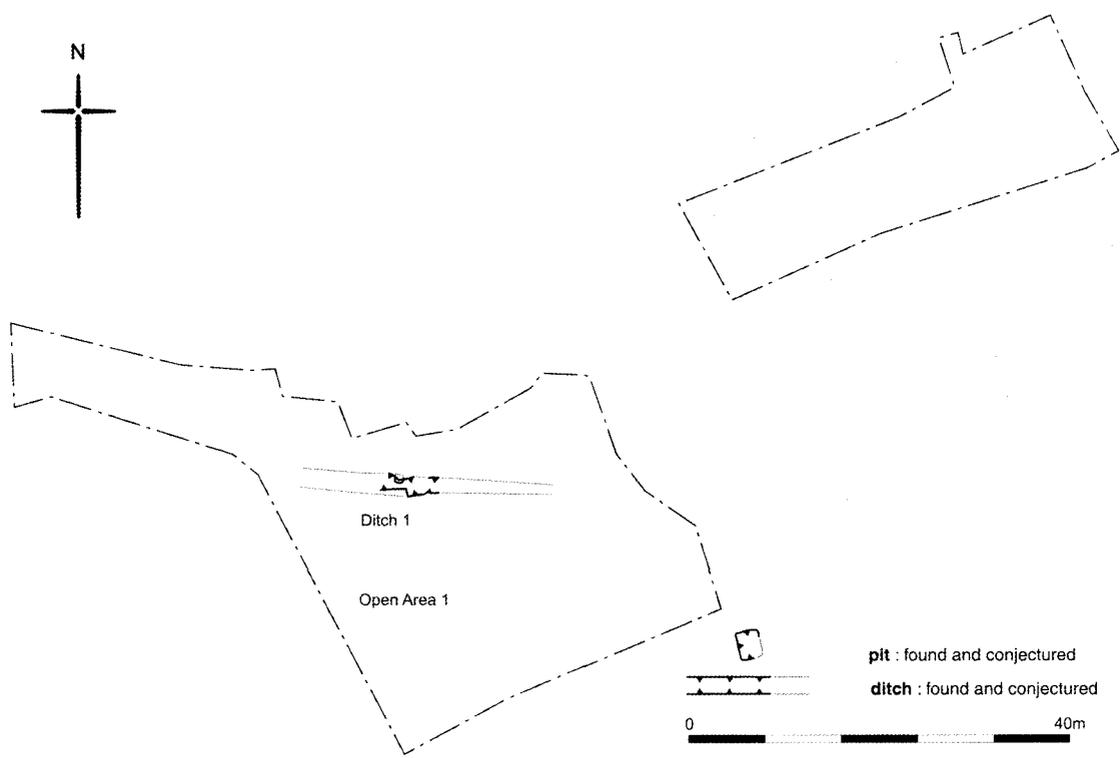


Fig 4. Iron Age features (Scale 1:800)

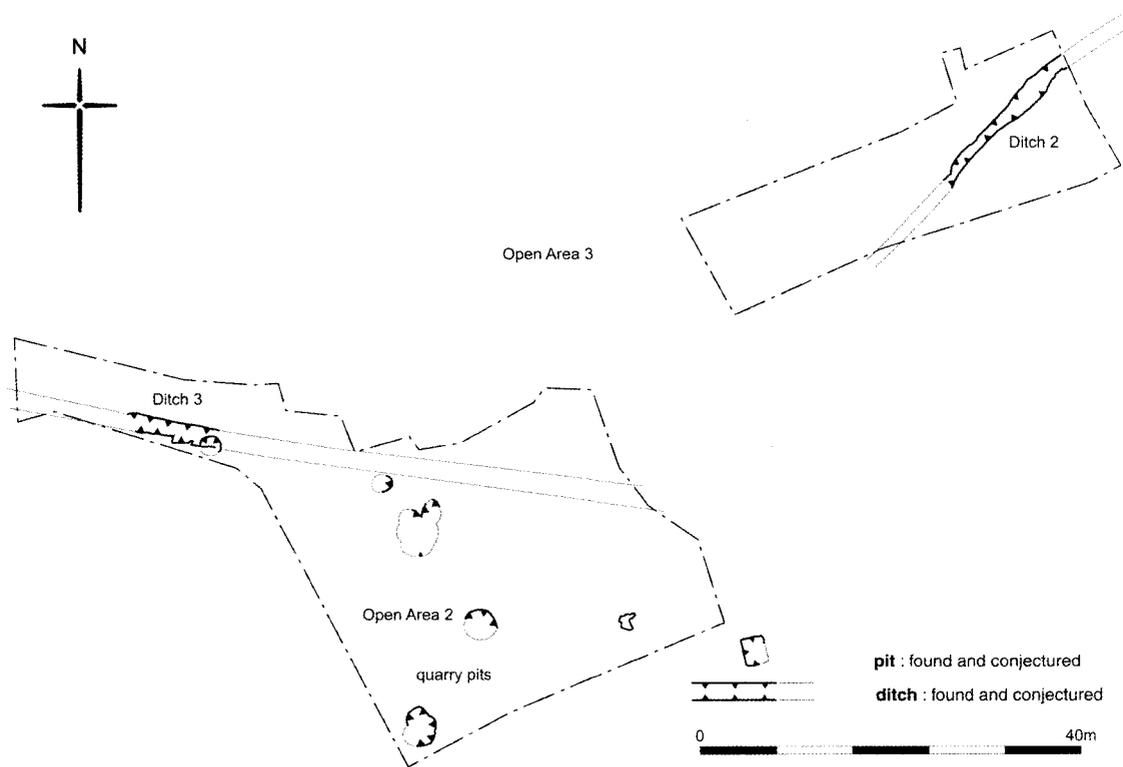


Fig 5. Late Roman features (Scale 1:800)

been used for sharpening tools or agricultural implements.

The pottery from the quarry pits was of a similar nature to that from the adjacent ditches (Ditches 2 and 3). One quarry pit fill, [35], contained a smashed but almost complete example of an Oxfordshire red/brown colour-coated ware (OXRC) dish imitating the samian form Drag 31 (Young 1977, 158 type C45); such dishes are dated *c.*AD 270–400+.

An environmental sample taken from the fill, [10], of a large quarry pit near the southern boundary only produced a very small assemblage of charred grains, weed seeds and chaff fragments together with a few small fragments and flecks of charcoal (see Table 3). The botanical assemblage probably derives from processing activities. Very little other material was present apart from a few fragments of large mammal teeth, possibly from cattle, and occasional pottery sherds.



Fig 6. View of Ditch 2, from the north

appears to be associated with strainers, although no other sherds from this group supported this interpretation. Strainers of this type are dated c.AD 270–420 (*ibid.*, 47).

Alongside the Alice Holt/Farnham ware (AHFA) bowls, there are also a number of jars including everted-rim, necked, and storage jars. The large reed-rimmed jar (<P7>, Fig 7) is similar to a published example dated c.AD 270–350 (Lyne & Jefferies 1979, 37 fig 22 Class 1.34). The necked jar (<P11>, Fig 7) has black slip on the rim and in bands on the neck (*ibid.*, fig 23 Class 1A.13); as with the bowls, examples of this class with applied slip are dated c.AD 270–350.

Other jars in this group include hooked- and square-rimmed vessels (for example <P17>–<P18>, Fig 7), which also occur in the Billingsgate bathhouse group (Symonds & Tomber 1991, 77). The occurrence of both a jar <P18> and a bowl <P19> in shell-tempered fabrics (SHEL) is further evidence for the re-emergence of shell-tempered wares in the 4th century AD.

Aside from the reduced coarse wares, there are oxidised wares from the Oxfordshire region (Oxfordshire red/brown colour-coated ware (OXRC); Oxfordshire parchment ware (OXPA); Oxfordshire white ware (OXWW)) and the lower Nene Valley (Nene Valley colour-coated ware (NVCC)). The straight-sided flanged bowl (<P12>, Fig 7) is the most common NVCC bowl type of the 4th century AD (Perrin 1999, 104). The NVCC square-rimmed jar (<P13>, Fig 7) is also a common type in this period (*ibid.*, 106).

The Oxfordshire wares are standard late Roman types and include Oxfordshire red/brown colour-coated ware (OXRC) bowls and mortaria, as well as the illustrated examples (<P14>–<P16>, Fig 7), which are a parchment ware bowl with red-painted decoration (Young 1977, type P24) and two mortaria (*ibid.*, type M18 and M22).

The presence of five sherds of Portchester D ware (PORD) in the large pottery group from Ditch 2 dates the final disuse of the ditch to later than AD 350. However, pottery, discarded on household middens which were subsequently used to fertilise fields, probably ends up in field ditches as a result of natural erosion and depositional processes (see Brannigan 1989, 164–6). The pottery assemblage should therefore be considered the result of gradual accumulation and, taken as a whole, would indicate that Ditch 2 started filling after AD 250, and that this process continued throughout the 4th century AD.

The vast majority of the charred plant remains from the site were from Ditch 2 (see Table 3). The charred plant assemblage in this sample was dominated by hundreds of cereal grains and large weed seeds plus a little wheat chaff and a very small quantity of fragmented charcoal.

The cereal grains consisted mainly of poorly preserved wheat grains (spelt, emmer, and free-threshing wheat) with traces of barley, oats, and rye. The oats and the ?rye grain are probably cereal weeds. The weed seeds consisted mainly of large grasses, predominantly bromes. The relatively clean nature of the charred assemblages with a predominance of grain and large weed seeds (of a similar size to the grains) suggests that the grain, accidentally burnt, was at an advanced stage of processing.

These ditch fills also contained a large amount of ceramic building material and fragments of two quernstones, <4> and <5>, made from Millstone Grit. The building material included combed flue tiles, which would have originally been used in a hypocaust heating system. The presence of the quernstones (used for small scale milling of cereals) along with the charred remains of an almost fully processed crop could be associated with a corndrier, perhaps suggested by the flue tiles also derived from the ditch. Flue tiles were sometimes used in sophisticated corndriers, as for example at Bignor Roman villa (Frere 1982, 153 and pl VIIa); these structures appear to have been multi-functional, for the drying of grain and the preparation of grain for malting. However, the quantity and proportion of Roman roof tile found in the ditches suggest that it came from a collapsed roof. If the ceramic building material was reused in a structure such as a corndrier, a higher ratio of *tegula* and brick to *imbrex* would be expected than is the case. In addition to the Millstone Grit fragments, there were pieces of Hertfordshire puddingstone, often used as a decorative building stone but also used to make large millstones.

Medieval and post-medieval (Period 3)

Two further quarry pits were recorded both c.5.0m in diameter (Fig 8). The fill of one included a few sherds of Kingston and London ware (dated to 1270–1350), including part of a tulip-necked baluster jug. The second quarry contained a brick dated to 1450–1700.

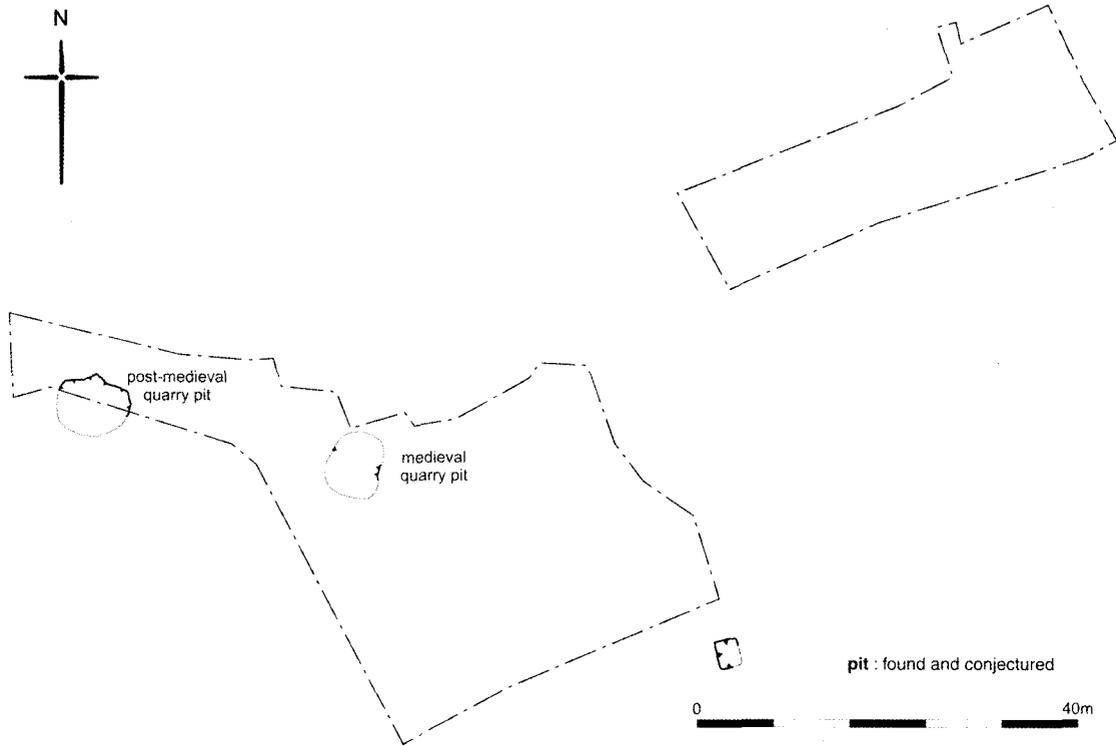


Fig 8. Medieval and post-medieval features (Scale 1:800)

SPECIALIST REPORTS

The non-ceramic finds

Alison Nailor

Catalogue

Abbreviations of dimensions used in the catalogues are as follows: L Length, W Width and Th Thickness.

Iron

<1>, [8], unstratified

Fragment of thick iron plate/bar. Three surviving edges. No rivets or rivet holes but an X-ray appears to show traces of wood in corrosion products. As the bar is slightly curved this may indicate that it is a section of a barrel hoop.

<2>, [38], P2, OA2

Small fragment of thin plate/sheet iron. ?Three cut edges. No rivets or rivet holes. L 55mm, W 37mm.

Stone

<3>, [38], P2, OA2

Fine grained sandstone hone. Rectangular section. Broken fragment, traces of burning. Three sides polished by wear. L 50mm, W 36mm, and Th 30mm.

<4>, [7], P2, Ditch 2

Coarse grained sandstone (Millstone Grit) quern. Small fragment. One polished side, one polished edge possibly for feed hopper or central hole of lower stone. One grinding side with two deep grooves. L 77mm, W 49mm, and Th 36mm.

<5> [7], P2, Ditch 2

Coarse grained sandstone (Millstone Grit) quern. Fragment. One very worn grinding side with two radiating grooves. L 130mm, W 87mm, and Th 76mm.

The building material

Susan Pringle

The total weight of ceramic and stone building

materials from the site is 22.495kg, of which Roman material accounts for 78.4% of the assemblage by weight, and medieval and post-medieval material for 16.4%.

Roman ceramic building material fabrics

The fabric codes used below refer to the Museum of London ceramic building materials type series.

Fabric types: 2815 group, including 2459B and 2459C, 3023, 3060

Most of the tile, 96% of the assemblage by weight, is in the local red-firing fabrics made from London clays (fabric group 2815). Kilns producing tiles in these fabrics were located close to Watling Street to the north-west of London and probably at other kiln sites around London. One major centre for the earlier production (fabrics 2452, 3006 and 2459A) was at Brockley Hill in Stanmore, possibly the site of the Roman settlement of *Sulloniacis*, mentioned in the Antonine Itinerary. Situated on Watling Street, the kilns supplied large quantities of tile to London between c.AD 50 and 160, when production appears to have ceased. The later fabrics in this group (2459B, 2459C) were produced elsewhere between c.AD 120–40 and 200–50, though apparently not in the same quantities as the early fabrics; they account for only 7.6% of the total assemblage compared with 88.5% for the early fabrics.

The other identifiable fabrics are the orange-firing products of the kilns at Radlett in Hertfordshire (fabrics 3023, 3060), which account for 2.9% of the assemblage by weight. Both contain distinctive fine, black iron oxides, and one (3023) has inclusions of light brown silt. There may be more than one source for tiles in fabrics containing black iron oxides, as similar clays occur in north London and north-west Kent, but Radlett is a definite source for these fabrics between c.AD 50 and 120. One fragment, a surface find, was in an unidentified red, calcareous fabric.

The date ranges of the majority of the tile fabrics on the site fall into the early Roman period, and the material represents building activity in the 1st or early 2nd century AD, as well as in the mid-2nd to 3rd century AD. As pottery dates indicate that the Roman features on the site are of 3rd- to 4th-century AD date, it is likely

that much of the material on the site is either reused or residual.

Roman ceramic building material forms

Roof tile

Fabric types: 2815 group, including 2459B, 2459C, 3023.

The roof tile, which includes flat *tegulae* and curved *imbrices*, accounts for 59% by weight of the Roman tile assemblage. The 71 *tegula* fragments and 30 *imbrex* fragments present weigh 7.595kg and 2.805kg respectively. The relative weights of *tegula* and *imbrex* are comparable with the weight ratio of complete *tegulae* and *imbrices*, which is approximately 2:5 (Brodrigg 1987, 11). The assemblage thus appears to contain roughly equal quantities of both tile types, as would be the case if the material represented a collapsed roof. No complete tiles are present and no features of particular interest were noted. The highest density of roof tile occurs in Ditch 2.

Brick

Fabric types: 2815 group, 3060, and red calcareous fabric.

The 21 fragments of Roman brick weigh 6.22kg, 35.3% by weight of the assemblage. All but two are in the red-firing fabrics of the local 2815 group, one is in Radlett fabric 3060 (although close in appearance to fabric 2459B), and another, in a red fabric with calcareous and iron-rich inclusions, may be in a fabric type not found before in the London area. There are no complete bricks, nor are there complete dimensions to provide information on their original size and function.

Flue tile

Fabric types: 3006, 2459A, 2459C (2815 group).

Four fragments of flue tile are present (1.8% by weight of the assemblage), three of which have combed keying (fabrics 3006, 2459A, and 2459C). The flue tile comes from a Roman quarry fill and Ditch 2. Combed flue tile in fabrics of the 2815 group is not usually found before the end of the 1st century AD, so it is likely that the flue tile comes from a very late 1st- or 2nd-century AD building. The tile in fabric 2459C was probably

not made before the second quarter of the 2nd century AD.

Tesserae

Fabric types: 2815 group.

Two coarse red tesserae in an abraded condition were found as surface finds.

Post-Roman ceramic building material

The post-Roman ceramic building material assemblage consists of brick and roof tile in five fabrics, all of which are common in London and were probably manufactured in the London area.

Roof tile

Fabric types: 2271, 2276, 3090.

Quantities of post-Roman roof tile are small. The assemblage consists of 14 fragments of tile in the clean, red-firing fabric 2271, often with a grey core, five fragments of red-firing fabric 2276, and a single fragment in sandy orange fabric 3090. Both types 2271 and 3090 came into use in the medieval period, at c.1180 and 1200 respectively, but the tile on this site is unglazed and is likely to date from the 15th century onwards. Fabric 2276, which is a thicker version of 2271 with finer moulding sand, is post-medieval in date and is not found before the second half of the 15th century. All are common in London and would have been made in the South-East.

Fragments of both peg or plain tile and ridge tile were found on the site. No complete tiles were noted. The only item of interest is a peg tile in an unfamiliar fabric (surface find) with part of a stamp on the surface. The stamp is not complete, but the surviving letters, which are approximately 7mm in height, are [...]ATTLE[?R..]. This is presumably the name of the tilemaker.

Bricks

Fabric types: 3033, 3046.

Three fragments of post-medieval brick are present in related red sandy fabrics 3033 and 3046; one fragment is too vitrified for the fabric to be identified. These bricks are typical of those used in London between c.1450 and the end of the 17th century, and were probably made at brickyards in or near the City.

Stone

Two types of building stone are present: a flake from what appears to be a thick slab of fine-grained laminated sandstone (stone type 3121) found in a medieval quarry pit, source unknown, and two roughly shaped fragments of conglomerate rubble, probably Hertfordshire puddingstone, found as possibly intrusive items in prehistoric features (Period 1). The latter was sometimes used for millstones and also for decorative external wall facings. It comes from Tertiary deposits overlying the chalk dip-slope of the Chilterns, in the north-eastern section of the county (T P Smith pers comm). The presence of the laminated sandstone, which is rarely found in London before the 4th century AD, is consistent with later Roman occupation of the site. The flake is 45mm thick, and is likely to have come from a thick paving slab.

The prehistoric pottery

Louise Rayner

Introduction

The later prehistoric pottery assemblage totalled 148 sherds (1,458g). With the exception of one context, [34], all of the prehistoric pottery was found in conjunction with Roman pottery and frequently also ceramic building material, suggesting that much of it is redeposited and residual. The prehistoric pottery was recorded to current MoL standards established in accordance with the guidelines outlined by the Prehistoric Ceramics Research Group (PCRG 1995; revised 1997). The fabrics have been defined on the basis of inclusion type and standard MoL codes have been used. The assemblage is quantified by sherd count and weight.

Fabrics

Eight fabrics were defined on the basis of primary inclusion type. Of these, five are flint-tempered with sandy matrices (FLIN1–5), one is quartz- and flint-tempered (QUFL), one is sandy (QU), and one is shell-with-flint-tempered (SHFL). The predominance of flint-tempered fabrics during the Late Bronze Age in the Thames Valley and its hinterland is well established, with a gradual increase in the use of sand tempering during the Iron Age transition period. Based on this sequence, the majority of

the assemblage from Dollis Hill would appear to belong predominately in the Late Bronze Age to Early Iron Age transition period. The shell-with-flint-tempered fabric is also likely to date to this transition period based on the evidence from other sites, such as Snowy Fielder Waye, Isleworth (Timby 1996, 46). The sandy ware (QU) is perhaps more typical of Middle Iron Age fabrics and so may date slightly later, but only two joining body sherds are present.

Fabric descriptions

FLIN1

Hard fabric with rare very coarse (>3mm) angular crushed calcined flint; sparse to common fine (<0.25mm) quartz, well sorted; rare medium (>0.25–1mm) quartz, poorly sorted (11 sherds, 144g).

FLIN2

Hard fabric with rare medium to coarse (0.25mm–3mm) angular crushed calcined flint, poorly sorted; sparse to moderate fine quartz, well sorted; rare medium sub-rounded quartz, poorly sorted. Some of the sherds have a silty matrix but are included in this group on the basis of the size and density of the flint inclusions (45 sherds, 344g).

FLIN3

Hard fabric with a fine, silty matrix; very rare medium angular crushed calcined flint, (the flint inclusions are more visible on the surface, with few inclusions in the section); rare medium sub-rounded quartz (11 sherds, 124g).

FLIN4

Dark, hard fine silty matrix with rare (2%) sub-rounded medium quartz; rare (1%) medium angular crushed calcined flint, usually 0.5mm (17 sherds, 148g).

FLIN5

Hard fabric with fine silty matrix, quite friable in texture with burnt organic inclusions and elongated voids; rare sub-rounded medium quartz; rare fine to medium angular crushed calcined flint (58 sherds, 425g).

QUFL1

Hard fabric, with moderate (15%) sub-rounded medium quartz, moderately well sorted; mainly rare coarse (with occasional very coarse) angular crushed calcined flint (3 sherds, 99g).

QU2

Fine sandy ware with granular matrix; abundant well-sorted silt-sized quartz (2 sherds, 127g). Only two sherds occurring in this fabric (joining) with wall thickness of 12mm; traces of burnished surfaces.

SHFL1

Hard fabric with plate-like voids, originally coarse shell inclusions; rare (1%) coarse angular crushed calcined flint (1 sherd, 47g).

Forms

The small assemblage contained few diagnostic sherds and all sherds worthy of illustration (Fig 9) are listed in the catalogue. There are only three rim sherds present, which all appear to derive from jars. However, bowls are also represented and there are both fine ware and coarse ware vessels. Decoration is limited to

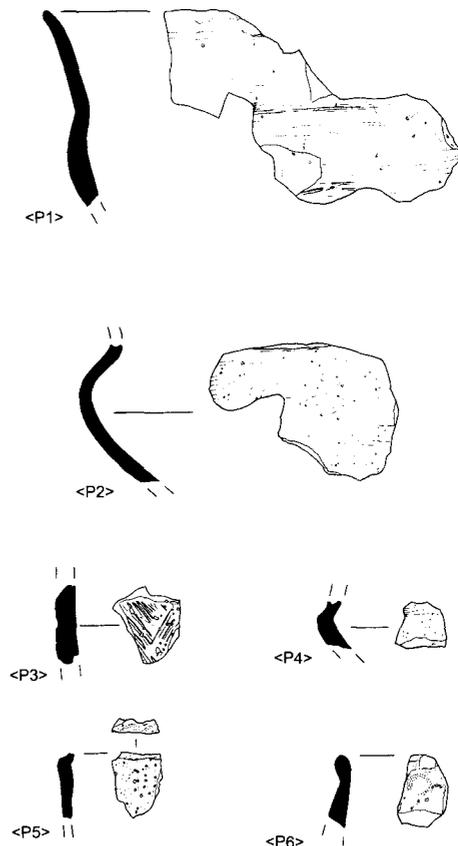


Fig 9. Prehistoric pottery <P1>–<P6> (Scale 1:4)

finger impressions, either on the shoulder or under the rim, and one example of incised decoration. Several of the vessels have smoothed and burnished external surfaces.

Where diagnostic sherds occur the forms include round-shouldered vessels (<P1>-<P2>, Fig 9), a carinated bowl, probably of tripartite type (<P4>, Fig 9), and a short-necked bipartite jar (<P6>, Fig 9). The coarse ware jars fall within Barrett's Class I and find parallel throughout the Thames Valley (Barrett 1980, 302). The carinated bowl form is found amongst the assemblage from Heathrow (Canham 1978, 27, fig 17 nos 59-62) and, along with the bowl (<P1>, Fig 9), falls broadly within Cunliffe's Darmsden-Linton group (Cunliffe 1991, 76 and 565 fig A:12).

The sherd with incised linear and chevron decoration (<P3>, Fig 9) finds parallel in Late Bronze Age assemblages, such as that from Runnymede Bridge (Longley 1991, fig 84, P104-6 and fig 88, P190) and in later transitional 'decorated assemblages' (Barrett 1980).

Catalogue of illustrated prehistoric pottery

<P1>, [1], P2, Ditch 3

Round-shouldered fine ware bowl with flaring rim; smoothed and burnished exterior surface. The profile is similar to a vessel in the Darmsden-Linton group, although there is no decoration except a poorly executed line around the vessel at the junction between the rim and shoulder. FLIN5, 31 sherds/292g.

<P2>, [1], P2, Ditch 3

Round-shouldered fine ware jar (several joining shoulder sherds but no rim sherds survive); FLIN4, 15 sherds/139g.

<P3>, [33], P2, Ditch 1

Body sherd with incised decoration in chevron pattern. The internal surface is rough and the fabric quite coarse, which may suggest that the sherd derives from a decorated jar rather than a bowl, despite the fact that incised linear and geometric designs are most frequently associated with fine wares bowls (Longley 1991, 165); FLIN1, 1 sherd/3g.

<P4>, [33], P2, Ditch 1

Carinated shoulder sherd, probably from a tripartite bowl; similar to examples from Heathrow (Canham 1978, 27 fig 17 no. 62; Cunliffe 1991); FLIN5, 1 sherd/6g.

<P5>, [34], P1, OA1

Jar rim sherd; flat top rim with slight groove; QUFL1, 1 sherd/6g.

<P6>, [33], P1, Ditch 1

Jar rim sherd with short neck decorated with finger impressions; FLIN2, 1 sherd/21g.

The Roman pottery

Louise Rayner

Introduction

The Roman pottery accounts for 464 sherds, the majority of which are late Roman in date. Much of the pottery, especially the colour-coated and slipped wares, has lost its original surface leaving the abraded body exposed. However as several of the vessels affected are represented by large, joining sherds, it seems more likely that this was caused by adverse soil conditions than by excessive movement and re-deposition. The Roman pottery has been recorded using standard MoL fabric and form codes. Common name fabric codes are used after the first instance, which is written out in full. For full Roman fabric descriptions see Davies *et al* 1994 and Symonds & Tomber 1991.

Fabrics

The Roman pottery comprises a range of wares, including a number indicative in London of late 3rd- to 4th-century AD activity, such as Oxfordshire red colour-coated ware (OXRC), Alice Holt/Farnham greyware (AHFA), Much Hadham oxidised ware (MHAD), and Portchester D ware (PORD). Table 1 shows that these are the most abundant wares (by sherd count) which contrasts notably with the single sherd of Black burnished ware fabric 1 (BB1). Other assemblages from London have suggested that the relative proportion of BB1 to AHFA is a useful chronological marker. A group from Leadenhall Court (group 53) dated AD 230-250/60 only contained <1% (by weight) AHFA, whilst BB1 comprised 11% (Symonds & Tomber 1991, 71). In a slightly later group from Dowgate Hill dated AD 270-350/60, AHFA accounted for more than half of the assemblage, although in this group Oxfordshire region products were only present in small quantities (*ibid*, 73). A 4th-century AD group from Billingsgate bathhouse

Table 1. Roman pottery fabrics by sherd count

Fabric	Count	% Count
Alice Holt/Farnham greyware	171	36.9
Baetican Dressel 20 fabric	1	0.2
Black-burnished ware 1	1	0.2
Black-burnished ware 2	2	0.4
Black-burnished ware 2 fine fabric	11	2.4
Black-burnished style	2	0.4
Miscellaneous colour-coated wares	5	1.1
Coarse ware	1	0.2
Grog-tempered ware	1	0.2
Much Hadham oxidised ware	3	0.6
Nene Valley colour-coated ware	26	5.6
Oxidised wares (miscellaneous)	20	4.3
Fine oxidised fabric	1	0.2
Oxfordshire parchment ware	3	0.6
Oxfordshire red/brown colour-coated ware	106	22.8
Oxfordshire white ware	23	5.0
Porchester D ware	11	2.4
Sand-tempered wares (miscellaneous)	28	6.0
Shell-tempered wares (miscellaneous)	45	9.7
Speicher ware	2	0.4
Verulamium region white ware	1	0.2
Total	464	99.8

has a comparable range of fabrics to the Dollis Hill assemblage, with PORD, MHAD, and OXRC forming important components (*ibid.*, 77).

The Roman pottery recovered from this site is very homogeneous, with a similar range of fabrics present in each context assemblage, where they are of reasonable size. There is also very little early Roman material residual amongst the assemblage, which suggests the activity was relatively short lived.

Table 2. Roman pottery form type by sherd count

Type	Count	% Count
Unidentified	208	44.8
Amphora	1	0.2
Beakers	5	1.1
Bowls	57	12.3
Bowls/dishes	7	1.5
Dishes	59	12.7
Flagons	1	0.2
Jars	97	20.9
Mortaria	29	6.3
Total	464	100

Forms

Over half of the sherds could be attributed to a form type, with jars comprising the largest group (20.9% of the total assemblage by sherd

count). Bowls and dishes are the next most common types (12.3% and 12.9% respectively), whilst beakers, amphorae and flagons are poorly represented. Table 2 shows the quantities of pottery according to form type. Mortaria are also represented which suggests that the assemblage is rubbish deposited from a domestic context, possibly from a nearby settlement. If the vessels are examined by functional category, the composition shows a general domestic mix of kitchen, storage, and tablewares.

The charred plant remains

John Giorgi

Introduction

Two bulk soil samples were collected, from the fill of Ditch 2 and from the fill of a large Roman quarry pit near the southern boundary of the site. Both samples were processed by flotation using sieve sizes of 0.25mm and 1.00mm for the recovery of the flot and residue respectively. Scanning the flots using a binocular microscope established the range, frequency, and diversity of plants and other biological remains. Identifications were listed of easily

recognisable taxa (Giorgi 2000). On the basis of the assessment, both samples were selected for further analysis. Modern reference collections and reference manuals (Berggren 1981; Beijerinck 1947) were used for identification of the plant macro-remains.

The very large quantity of charred plant remains from the ditch fill {1} meant that the flot was subsampled using a riffle box, with a 25% fraction being sorted and quantified. The remaining fraction (75%) was scanned for additional species, which are denoted (*) on the table of results (Table 3).

Results

The results are presented in Table 3. The two analysed samples produced identifiable and quantifiable charred plant remains with a total of 669 plant items. Almost 98% of the quantified plant items were recovered from the sampled ditch fill {1}. A breakdown of the main categories of material shows that almost equal quantities of cereals and weeds were present, with 45% cereal grains, 6% chaff fragments, and 49% weed seeds. Small amounts of very fragmented charcoal were present in both samples.

Occasional uncharred seeds were found in both samples, both robust woody fruit seeds, for example brambles (*Rubus* spp), elder (*Sambucus* sp), and high seed producing plants of disturbed ground and waste places, such as goosefoots (*Chenopodium* spp), stinging nettle (*Urtica dioica*), black nightshade (*Solanum nigrum*). Rootlets were also present in the flots. These seeds, however, are probably intrusive given soil conditions at the site.

The cereals

The cereals were mainly represented by grains, which accounted for 88% of the cereal items, together with a small number of chaff fragments (12% of all cereal remains). The condition of the grains was not particularly good with distortion and fragmentation through excessive charring meaning that 65% of the grains could not be identified. Identifiable cereal grains included wheats (*Triticum* spp), barley (*Hordeum sativum*), ?rye (cf *Secale cereale*), and oats (*Avena* spp).

Wheat was by far the best-represented cereal on the site, accounting for almost 86% of all identifiable grains. The poor condition of the charred material, however, meant that 79%

of the wheat grains could not be identified to species. Of the better-preserved wheat grains, the glume wheats, spelt (*Triticum spelta*) and several emmer grains (*Triticum dicoccum*), were identified on the basis of the grain morphology. The definite presence of spelt wheat was confirmed by the identification of diagnostic spelt chaff, represented by a small number of glume bases. A small quantity of other wheat glume bases (and a single rachis fragment) was also recovered, although these could not be identified to species.

Free-threshing wheat (*Triticum* spp) was represented by a single grain with the very rounded morphology suggesting that it probably belonged to hexaploid free-threshing bread/club wheat (*Triticum aestivum* s.l.). The overlap in grain morphology between different wheats however meant that a number of grains were categorised as spelt/bread wheat (*Triticum spelta/aestivum*) while another grain was identified as either emmer or spelt (*Triticum dicoccum/spelta*).

Just two barley grains were identified in the samples with the presence of twisted and hulled grains in the scanned fraction of the flot from Ditch 2 indicating the presence of six-row hulled barley. Oat was identified by a slightly larger number of grains and awn fragments. These may be from wild or cultivated oats, although the presence of a wild oat floret in the scanned fraction of the Ditch 2 flot shows the presence of wild oat on the site. Finally, a single grain of ?rye was present in Ditch 2.

Wild plants

The other botanical material in the charred assemblages came from a number of wild plants, although species diversity was not particularly high. Moreover, many of the seeds could not be identified to species; this limits ecological interpretation because different plants within a genus may grow in significantly different habitats while some plants may grow in more than one. The association of this material with the cereals suggests that most of the seeds were probably derived from plants imported onto the site accidentally as cereal weeds. The ecological information given below is taken from *The Flora of the British Isles* (Clapham *et al* 1987) and *New Flora of the British Isles* (Stace 1991).

The majority of the weed seeds represent wild grasses, which accounted for 96% of the quantifiable seeds of wild plants from the site. These were mainly identified as bromes (*Bromus*

Table 3. Table of charred plant remains

		Feature	Quarry	Ditch 2
		Sample	{2}	{1}
		Context	[10]	[7]
		Volume soil (l)	20	100
		% Flot sorted	100	25
		% Flot scanned	-	75
Latin name	English name	Habitat/use code		
Cereal grains				
<i>Triticum dicoccum</i>	Emmer wheat	FI		*
<i>Triticum cf dicoccum</i>	?Emmer wheat	FI		2
<i>Triticum spelta</i> L.	Spelt wheat	FI		4
<i>Triticum cf spelta</i>	?Spelt wheat	FI		3
<i>Triticum dicoccum/spelta</i>	Emmer/Spelt wheat	FI	1	*
<i>Triticum aestivum</i> type	Bread/Club wheat	FI		1
<i>Triticum spelta/aestivum</i>	Spelt/Bread wheat	FI		7
<i>Triticum</i> spp	Wheat	FI	2	69
cf <i>Secale cereale</i>	?Rye	FI		1
<i>Hordeum sativum</i> L.	Barley	FI	1	1
<i>Avena</i> spp	Oat	AFI		9
<i>Avena</i> sp	Oat floret	AFI		*
cf <i>Avena</i> spp type	?Oat	AFI		3
Cerealia (large cereals)	Indeterminate cereal	FI	4	190
Subtotal			(8)	(290)
Chaff				
<i>Triticum spelta</i> L.	Spelt glume base	FI		9
<i>Triticum</i> spp	Wheat spikelet base	FI	1	
<i>Triticum</i> spp	Wheat glume base	FI	2	25
<i>Triticum</i> sp	Wheat rachis	FI		*
<i>Avena</i> spp	Oat awn	AFI		3
Subtotal			(3)	(37)
Other plants				
<i>Chenopodium</i> spp	Goosefoot etc	ABCDFH		*
<i>Vicia/Lathyrus/Pisum</i> spp	Vetch/Tare/Vetchling/Pea	ABCDEFI		2
<i>Rumex acetosella</i> agg	Sheep's sorrel	AD		1
<i>Rumex</i> spp	Dock	ABCDEFG		2
<i>Plantago lanceolata</i> L.	Ribwort	D		1
<i>Tripleurospermum inodorum</i> L. Schultz Bip	Scentless Mayweed	AB		4
<i>Lolium cf temulentum</i>	Rye-Grass	AB		*
Poaceae indet	Grasses (large seeded)	ABCDE		133
Poaceae indet	Grasses (large fragments)	ABCDE	+	+++
<i>Poa</i> spp	Poa	ABCDE		5
cf <i>Poa</i> spp	?Poa	ABCDE	1	
<i>Bromus</i> sp(p)	Bromes	ABD	1	176
<i>Avena/Bromus</i> spp	Oat/Brome	ABCDFI		3
indeterminate	-	-	+	+
indeterminate	Charcoal	-	++	+
Subtotal			(4)	(327)
Total			15	654
Seed density (per litre of soil)			(0.75)	26.16
(quantified items only)				

Key

Frequency: for charcoal fragments, wild grass seed fragments, and unidentifiable items only approximate estimates of numbers were recorded using the following rating system; + = 1–10 items; ++ = 11–50 items; +++ = 50 + items.

Habitat codes: A = weeds of cultivated ground; B = weeds of waste places and disturbed ground; C = plants of woods, scrub, hedgerows; D = open environment (fairly undisturbed); E = plants of wet/damp environments; F = edible plants; G = medicinal and poisonous plants; H = commercial/industrial use; I = cultivated plants

* denotes additional plants recorded in the scan of the 75% of the flot

spp), which made up 54% of all weed seeds, although this proportion was probably much greater given the large amount of unquantifiable large weed seed fragments. Nineteen species of bromes are listed in *The Flora of the British Isles* and these grow in a range of habitats including cultivated ground. Bromes are characteristic weed seeds of stored grain deposits because they are of a similar size to the cereal grains and therefore difficult to separate out by sieving. Other grasses included a very small number of ?darnel (*Lolium cf temulentum*) and poa (*Poa* spp) seeds as well as probably the oat grains.

Other wild plants in the assemblages were represented by very few seeds. There were several seeds of scentless mayweed (*Tripleurospermum inodorum*), a weed of cultivated and waste land on all kinds of soil. Also single examples of ribwort (*Plantago lanceolata*), which is found in grassy places on neutral or basic soils, and sheep's sorrel (*Rumex acetosella* ag), which grows on heaths, in grassland and cultivated ground, being frequent on acid but infrequent on calcareous soils. A few other wild plants were represented by several seeds of docks (*Rumex* spp), goosefoots etc (*Chenopodium* spp), and vetch/tare/vetchling/pea (*Vicia/Lathyrus/Pisum* spp).

Discussion

The cereals represented on the site have all been recovered from other rural as well as urban sites in Roman Britain. Wheat, which was the most common grain on the site, is one of the two best-represented cereals (along with barley) found on Romano-British sites. Spelt wheat is the most common wheat grain (for example at sites in the City and Southwark), while free-threshing wheat is less usual and abundant at very few sites (Greig 1991, 309). Emmer tends to decline in the Roman period with the emergence of spelt wheat although there are regional variations (van der Veen 1992, 152). All three species were present at the site, although it was difficult to establish the relative importance of the three wheat species on the basis of the small number of identifiable grains.

Barley is the other common grain found on Romano-British sites. It does not appear to have been very important at this site since only two samples were collected from the excavations. Rye, represented by just one possible grain, does not appear to have been a common grain in the

Roman period, only occasionally being found at other sites (Greig 1991, 310). Therefore, the rye along with the oats were probably cereal weeds.

There is very little archaeobotanical evidence from Roman sites in the hinterland of London. Two other Roman rural sites to the north and west of the City have produced a small number of charred cereal grains — St Mary Abbots Hospital, Marloes Road, Kensington (Giorgi 1995a) and Long Lane Playing Fields, Ickenham (Giorgi 1994, 7). At both these sites, wheat was also the best represented grain with mainly free-threshing wheat at Long Lane Playing Fields (Giorgi 1995b) and spelt, emmer, and free-threshing wheat together with traces of barley at St Mary Abbots Hospital (Giorgi 1998).

The cereal grains may have been used for bread (of which a number of different types were made), porridge, gruel, and cakes (Wilson 1991, 234). The Romans made a type of gruel from cereals called *puls* or *pulmenta*, which was prepared from roasted barley or spelt wheat. It was pounded and cooked with water in a cauldron to make a porridge similar to modern Italian polenta. They also made a wheat starch called *amulum* which was used by Roman cooks for thickening sauces (Renfrew 1985, 22–3). Wheat was probably used exclusively for human food and sometimes for brewing, although there was no evidence (no sprouted grains) to suggest that this was taking place on the site.

The charred plant remains from Dollis Hill show that wheat (including spelt and free-threshing wheat) was being stored and presumably used at the site. It is not possible to comment on the relative importance of the different wheat grains because of the problems of identification to species level. Both spelt and free-threshing wheat, however, appear to have been cultivated throughout the Roman period. The cultivation and use of wheat is confirmed by other finds of plant remains, albeit limited, in this area of north-west London as well as within the City of London itself. The few emmer grains are probably weeds or relics from previous harvests. Little comment may be made on the very small number of barley grains while the rye and oats are probably arable weeds.

Most of the remains were from Ditch 2 and represent the burnt remains of an almost fully processed crop, probably part of a storage deposit which may have been accidentally burnt while being dried in the structure tentatively identified as a corndrier. Most of the weed seeds

were of a size that would be expected at an advanced stage of crop-processing and also in storage deposits, being of a similar size to the grains and therefore difficult to separate out other than by hand sorting.

CONCLUSIONS

Iron Age remains are not plentiful in Greater London and it is generally assumed that areas farmed may have contracted during the Late Bronze Age. Needham (1987, 135) suggests that climatic deterioration and soil exhaustion lead Later Bronze Age communities to intensify exploitation of more productive land. London Clay, the predominant local subsoil, is arguably less desirable to farm and has probably been pasture through most of history. It is more likely to be abandoned if farming is concentrated on well-drained lighter soils.

Compared to the presence of Bronze Age finds, the lack of Iron Age finds in Brent may be attributed to the contraction in the cultivated land. However, similar high-level gravel deposits, on extensive areas of outcropping London Clay, attracted the Early Iron Age foundation of hillforts at Loughton Camp and Ambresbury Banks in Essex. Their location overlooking a river is also similar to that of Dollis Hill.

Although small and lacking in featured sherds, the prehistoric pottery assemblage has parallels within the established sequence of Later Bronze Age pottery from the Thames Valley. With such a small sample size, the proportion of decorated to undecorated wares cannot be usefully assessed, but the presence of vessels of Darmsden-Linton type, coupled with the use of sandy flint-tempered fabrics, most probably places this assemblage in the Late Bronze Age to Early Iron Age transition period.

The prehistoric pottery assemblage is indicative of activity in this area in the transition period, c.8th–6th century BC. This in itself is important because, aside from a Deverel-Rimbury type urn found at the Brent reservoir (Fig 3), few findspots of prehistoric pottery are known from this area, although Bronze Age metalwork has been found at Neasden (Fig 3; MoLAS 2000, 94, nos BT1 and BT2). These aside, indications of prehistoric activity in this area are rare, supporting suggestions that the clay areas of North London were not favoured locations, with a clear preference for the floodplain or gravel terraces (*ibid*, 92–3). However the excavation

at Dollis Hill has shown that where gravel pockets exist in the London Clay, these have been utilised and in the London region this should be considered in the light of prehistoric activity evidenced on the claylands of Essex and Hertfordshire (*ibid*, 93).

There is no indication of prehistoric defensive ditches despite the strategic location on high ground and, since it is unlikely that pottery would be transported far before disposal, it is assumed that the site is near to a farm or farming hamlet. As only one feature, the pit in Period 1 (OA1), could be assigned to the prehistoric period with any certainty (possibly two if the Roman pottery and building material is accepted as intrusive from Ditch 1), the nature of this activity remains elusive. If Ditch 1 is of Iron Age date, its alignment with a later Roman ditch (Ditch 3) may indicate that the boundary was also marked by a hedge or hedge-bank which remained as a local feature long after the ditch silted up. No social continuity should be inferred from this since boundaries of the Iron Age and possibly earlier are still in use in the countryside today, notably in Penwith (Hoskins 1977, 28).

The Roman pottery suggests occupation during the 4th century AD and the completeness of some vessels and the condition of the pottery in general would suggest that the source of this material is in the near vicinity. Assuming there is an associated settlement nearby, the assemblage demonstrates that the inhabitants had access to regional fine wares, such as the Nene Valley colour-coated ware (NVCC) and Oxfordshire red/brown colour-coated ware (OXRC) vessels, as well as imported wares such as Speicher oxidised ware (SPEC), which frequently occurs in sparse quantities in 4th-century AD groups from the City of London.

Occupation on the site into the 4th century AD is also suggested by the presence of laminated fine-grained sandstone and, probably, Hertfordshire puddingstone. Fine-grained sandstone is rare in London before the 4th century AD, at which time it was increasingly used for both roofing and paving; the flake is too thick for roofing tile and is probably part of a flagstone or paviour. It is also notable that finds of quernstones made of stone other than lava from Gaul and Germany are rare in Roman London before the 3rd century AD (Milne 1985, 122), a situation apparently also echoed in the City's close hinterland. Puddingstone may have provided a local alternative. This would suggest that these

fragments date from the later Roman period, probably the 3rd or earlier 4th century AD as they were well used before they were discarded towards the end of the 4th century.

The Roman building material assemblage contains combed box-flue tile and tesserae as well as the more common brick and roofing tile. The dating of the material is generally earlier than the pottery dates from the site, indicating that the tile is either reused or residual. The absence of earlier Roman features suggests that reuse may be the more likely explanation, unless it represents a gradual accumulation of residual material. However, both explanations imply the presence in the area of Roman building activity. The material is generally fairly abraded.

The material present is typical of that used in high-status residential buildings, with evidence for a hypocaust heating system and a tessellated floor. Combed flue tile in local fabrics is not common in London until the end of the 1st century AD, so the hypocaust may have been a feature in a 2nd-century AD structure (I M Betts pers comm). A recent study of their occurrence in Southwark suggests that coarse tile tesserae are also rare in 1st-century AD deposits in London (Pringle in prep). The ceramic materials used all appear to be of types that were manufactured on or near Watling Street between London and Verulamium.

The disparity between the dates of the building material (late 1st to 2nd century AD) and the pottery (4th century AD) could be due to the presence of a nearby 2nd-century AD building, which was demolished or altered in the 4th century AD, the demolition material being incorporated into the 4th-century AD assemblages. The lack of contemporary 2nd-century AD pottery merely indicates that this material was disposed of elsewhere. A further explanation for the disparity of the dates of the ceramic building material and the pottery could be reuse of the building material in a later structure. The end-use of the building material may be different from that of its original function; for instance combed box-flue tiles derived from a hypocaust heating system need not have been reused for such a purpose. Hypocaust type heating systems were used for corndriers as well as for bathhouses, as at Bignor (Frere 1982, 153 and pl VIIa).

The burnt remains of an almost fully processed crop, probably part of a storage deposit, found in Ditch 2 does indicate grain processing in the

vicinity of the site. The association of quern fragments and burnt grain suggests that flour was being made. Columella placed the corn mill — *mola, pistrinum* — near to the villa house (quoted in White 1970, 433) but was writing at an earlier time when villas were unitary institutions staffed by slaves. Villas in the 4th century AD were large landed estates extracting rent-in-kind from tied tenants, or *coloni*. It is not known whether agricultural buildings were dispersed amongst the *coloni* communities or centralised near the landowner's house.

Despite the lack of other evidence for Roman activity in this area, the chronology suggested by the pottery does compare favourably with evidence from other rural sites. In West London on the gravel terraces, activity appears to have resumed in the mid-4th century AD, after a period of decline in the late 2nd century AD (MoLAS 2000, 155). This pattern is also suggested at a site at Long Lane Playing Fields, Ickenham, where late Roman pottery was recovered from a layer of mixed brickearth and subsoil that overlay ditches and entrance-ways of a field system (Lakin 1994, 3–6). The Roman pottery from this site suffered more extensively from abrasion than the Dollis Hill assemblage but small quantities of Alice Holt/Farnham ware (AHFA), Porchester D ware (PORD), Nene Valley colour-coated ware (NVCC), and Oxfordshire red/brown colour-coated ware (OXRC) could be identified (Symonds 1994, 9 table 1). A similar range of wares was also recovered from a late Roman pit and ditches at Avenue Gardens, Acton (Davies 1993, 11).

The Dollis Hill assemblage is therefore a useful addition, providing evidence for Roman activity in an area of *Londinium's* hinterland that has previously only been hinted at. Furthermore the comparatively good condition of the pottery enables a favourable comparison to be made between a rural assemblage and contemporary groups from the city.

Large Roman quarries in Open Area 2 were dug south of the field boundary defined by Ditch 3 (although one was dug through, and beyond, the ditch which contained high numbers of prehistoric sherds). All the quarries are dated to the late 3rd or 4th centuries AD from the small quantity of finds recovered from them. Sand had a variety of uses in construction — as moulding sand in the manufacture of tiles, as an aggregate in mortars and in the backing mortars for painted wall plaster which usually have a very

high proportion of sand — and its quarrying marks periods of construction in the locality or beyond. The quarries had no organic-rich or finds-rich fills and were probably not left open for long, being backfilled soon after they were dug.

The 4th century AD was the main period of country house/villa construction in Roman Britain in general. However, this has commonly been contrasted with the Greater London area (MoLAS 2000, 157) where there is little evidence for such a movement. The building material from the site is comparable with that from other Roman sites in the London area in both the fabrics and tile types present. Although it is always dangerous to make generalisations about Roman buildings and their uses, the relative proportions of roof-tile and brick seem to be what could be expected from an urban or villa site. If a villa it would conform to the national pattern of rural realignment and agricultural intensification in the final century of Roman rule.

The only post-Roman archaeological features recorded are also quarries. The quantity of finds recovered does not date them accurately but we may presume that they were also dug at times of construction booms in the late medieval or Tudor period.

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MEDIEVAL AND POST-MEDIEVAL FULHAM, EXCAVATIONS AT 31–35 FULHAM HIGH STREET, FULHAM SW6, 2002

Chiz Harward

With contributions by Lyn Blackmore, Anne Davis, Jackie Keily, Alan Pipe and Alan Vince

SUMMARY

An archaeological evaluation and excavation at 31–35 Fulham High Street, London SW6, site code FUA02, revealed evidence for occupation along the eastern side of Fulham High Street from the late 12th century. A small amount of Roman material was recovered from later contexts.

The site was subdivided by a shallow gully into two plots, with small scale quarrying of the natural sands and gravels. Domestic refuse deposited in disused quarries and back-garden rubbish pits includes an important assemblage of medieval ceramics (two vessels have been subjected to thin sectioning and Inductively-Coupled Plasma Spectroscopy). The remains of a wattle-lined sunken structure, a slumped brickearth floor, and a peg-tile hearth indicate occupation along the eastern side of Fulham High Street into the 15th century.

Occupation appears to have ceased in the later 15th century, and a horticultural soil was established over the site, truncating the earlier deposits. This soil appears to be associated with the development of Fulham as a centre for market gardening, supplying London.

Probably in the late 16th century, a half-cellared masonry building was constructed, re-using greensand ashlar blocks, with a cobbled path or yard to the rear. This was superseded by a more substantial brick building, with external chimney, and a well constructed in the early to mid-17th century. A long narrow cellar was constructed down the northern side of the site. Cartographic sources suggest that the main building had been extended to the rear by the mid-19th century, although no archaeological trace of this was found. The building and cellar appear to have been demolished in the mid-20th century.

INTRODUCTION AND CIRCUMSTANCES OF EXCAVATION

The evaluation and excavation at 31–35 Fulham High Street was conducted by MoLAS in advance of redevelopment of the site by Buxton Homes (Fig 1). Work took place between 29 April and 10 May 2002, following the demolition of a 1960s garage and No. 35 Fulham High Street, an early Victorian building. Site clearance had disturbed some of the post-medieval deposits, underlying deposits were less affected. A single trench measuring 8.5m by 6.5m was machine excavated to the top of the post-medieval levels; within this trench two trial pits were dug (one by machine) to investigate the underlying deposits.

Following the initial results of the evaluation, and because of the imminent redevelopment works, the site was taken straight on to full excavation. At the suggestion of Greater London Archaeological Advisory Service (GLAAS) the area of the evaluation trench was fully excavated and in addition an exposed section was recorded at the east of the site. Excavation was completed on 10 May 2002. All archaeological work on the site was recorded under Museum of London site code FUA02; the full stratigraphic, finds, and environmental archive will be available for consultation on request at the London Archaeological Archive Research Centre.

Previously MoLAS had carried out an evaluation on the adjacent site of Rigault Road (see Fig 1,

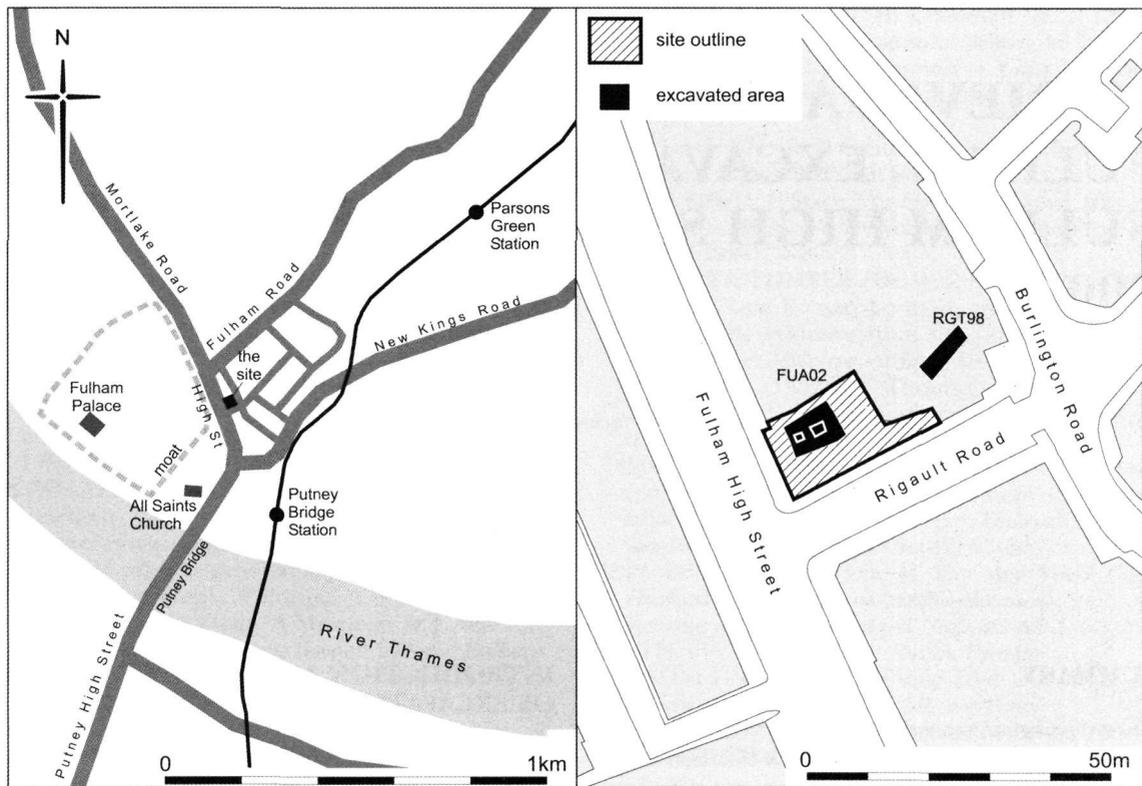


Fig 1. Site location. Inset shows trench location of FUA02 and RGT98

RGT98; Roycroft 1998), the results of which have been drawn on to allow better interpretation of the topographic setting of the site.

GEOLOGY AND TOPOGRAPHY

The site is situated some 340m from the current northern bank of the River Thames, at the foot of a low scarp of Kempton Park sands and gravels (British Geological Survey Sheet 270). Brickearth has been observed sealing the lower terrace in the locality (eg at 69A Fulham High Street; Partridge 1997). Current ground level at the top of this scarp, which is followed by Burlington Road, is 6.73m OD, whilst the pavement level at the base of the scarp is 4.60m OD.

Open Area 1: natural deposits

The levels of natural sands and gravels on the site rise from 3.06m OD at the west of the excavated area, to 3.39m at the east, before rising to 4.60m OD at the Rigault Road site 16m to the east.

Sealing the sands and gravels was a 0.22m thick layer of sticky brickearth. The surface of the brickearth appeared to have been terraced to approximately 3.28m OD; the brickearth only survived this terracing at the west of the site. At RGT98 no brickearth was observed as this will have been eroded off the higher terrace.

MEDIEVAL, c.1180–1500

During the medieval period the settlement at Fulham was concentrated around the east side of the High Street, adjacent to an early ferry crossing of the Thames. The basic road layout was probably established at this time. The earliest reference to the church, located some 240m south of the site, is in 1154, with some physical evidence from the same period, whilst the adjoining vicarage (now lost) is documented from 1430. Fulham High Street was known as *Burystrete* in 1391, probably derived from the Anglo-Saxon *burgh*, or fortified place. Several tenements are recorded along the length of

Burystrete in the 14th and 15th centuries. Watermills and wharves were sited on the Thames (Ferret 1900). The medieval Fulham Palace, which lay within the moated area to the west of the High Street, was substantially demolished and rebuilt between 1506 and the 19th century.

Limited quantities of medieval material have been excavated from various sites in the locality, including two potsherds from the adjacent site, RGT98. The distribution of medieval material suggests that the village spread along the High Street and other medieval lanes, with buildings fronting the road. This ribbon development may have been intermittent, with various plots being built on at different times.

Open Area 2: medieval tenement crofts

The medieval soil horizon that would have developed across the site had been horizontally truncated by a later garden soil during extensive reworking (Open Area 3). It is possible to estimate the original medieval land surface as having been approximately 3.4m OD. This is based on the level of the surface of the pitched-tile hearth, Structure 3, at 3.41m OD, the

slumped floors of Building 1 at 3.26m OD, and the level of the later garden soil at 3.6–4.17m OD. This implies that at the western end of the site all the medieval features would originally have been approximately 0.3m deeper than as excavated. Structures 1, 2, and 3, and Building 1 are all within Open Area 2.

Structure 1: gully

A shallow gully, dropping down slightly towards the High Street, divided Open Area 2 into two, the gully terminating within the site (Fig 2). The gully was possibly lined or revetted with stakes, although these may represent insubstantial fence-lines on both sides. Five sherds of medieval pottery were found in the fill of the east–west gully. These comprise one sherd each of coarse London-type ware and South Hertfordshire-type greyware, and three of Kingston-type ware, from a jug, a cooking pot and an externally sooted dish or frying pan. The latter sherds indicate that the gully went out of use after 1230. The gully would appear to be a property division, dividing the backyard area of two properties fronting onto Fulham High Street. Across the western area of

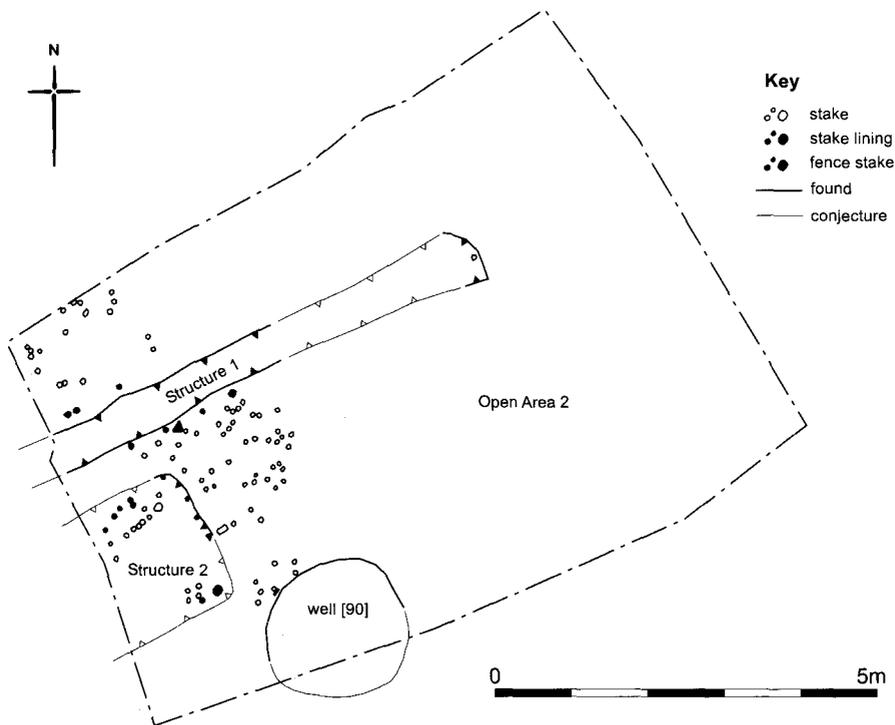


Fig 2. 13th-century structural features

Open Area 2 were a number of stakeholes, the function of which is unclear.

Structure 2: possible building

A flat based, square cornered, feature was dug at the west of the site (Fig 2). Its alignment respected the gully (Structure 1) 0.6m to its north. The base of the cut lay at 3.07m OD and had been highly compacted. A series of 18 stakeholes lined the surviving two sides of the cut; these represent a lining, either of wattle or revetted planks. To the south further stakeholes appear to form the southern side of the structure, which would have measured 1.8m north-south by at least 1.4m east-west. Whilst the structure may merely represent a wattle lined pit, the stakeholes, the compaction of its base, and the shallow depth (it would have been 0.5m deep) suggest that it may have been a more substantial structure, possibly a small building. Some of the stakeholes are larger than others, possibly indicating structural posts. Its disuse was filled by a homogeneous soil; no dating evidence was recovered from this backfill, although it is sealed by early 13th-century pits.

Open Area 2: medieval occupation and pitting

A circular feature, [90], at the south of the site was dug through the natural sands and gravels to 2.05m OD, a depth of 1.2m below natural ground surface. This feature is dissimilar to the other pits, and has been interpreted as a well. If so, it must surely have originally been lined, since it is cut into soft sandy natural and at 1.85m in diameter is substantial, but no traces or impressions survived from any lining. The backfill of the well contained nine sherds dating to the later 12th and 13th centuries, the latest diagnostic piece being the base of a Kingston-type ware baluster jug. The other fabrics comprise London-type ware (both fine and coarse variants), shelly-sandy ware, and South Hertfordshire-type greyware.

Within Open Area 2 a series of pits was dug, both for the small-scale quarrying of sand and gravels, possibly for the adjacent road, and also for the disposal of domestic rubbish (Fig 3). The majority of these are to the south of the gully, Structure 1, although the cutting of pits across the backfilled gully indicates the possible



Fig 3. Medieval pitting and late medieval occupation

merging of the two plots in the later medieval period. The pits varied in size from over 2m in length, dug well down into the sands and gravels, to small scoops of no obvious function. The pits date between 1230 and 1350.

Of the pits, [73] contained one sherd from a Kingston-type ware jug with heavy external sooting (KING), while [71] contained 16 sherds, mainly of South Hertfordshire-type greyware (SHER). In all, 80 sherds were assigned to deposit [69], most of which derive from two near-complete, squat baluster/rounded jugs in a previously unknown fabric (SHERL: <P1>, <P2>, Fig 4). Also present are numerous fragments from the lower body of a London-type ware jug in the North French style (LOND), two other jug sherds in LOND, sherds from cooking pots/jars in SHER and KING whiteware, and two residual shell-tempered sherds. The combination of forms present, and the lack of Mill Green ware, might suggest that these features date to 1230–1270.

Six other pits contained small amounts of pottery (mainly SHER, LOND, and KING). Four of these can be broadly dated to the 13th century: pit [59] two sherds, pit [92] one sherd, pit [94] seven sherds, and pit [78] three sherds of SHER. Pit [96] is perhaps slightly later, as the six sherds include large, externally sooted bases from two conical jugs, one in LOND, the other in Mill Green ware (MG), the latter dates this feature to after 1270. The latest group is from rubbish pit [88], which contained thirteen sherds, including one of Cheam ware that dates to after 1350.

Pit [80]

One pit in particular produced good assemblages of ceramics, accessioned finds, faunal and botanic remains, and is therefore discussed in detail. The pit was located to the south of the gully, Structure 1, and measured 1.85 by 2.26 by 0.61m deep. The pit was one of the latest medieval features on the site.

The largest assemblage of pottery was found in the fill of this pit; it comprised 158 sherds. These mainly derive from jugs in London-type ware and Kingston-type ware, but there is also a cluster of Mill Green ware jug sherds, while a few sherds are from jugs/cisterns in coarse Surrey/Hampshire border ware (CBW). The kitchen wares are mainly in South Hertfordshire-type greyware, with a few in KING and CBW; jars/cooking pots are the most common, but sherds from a pipkin and frying pan in KING are also present. The latest diagnostic sherd is from a late medieval Hertfordshire glazed ware pipkin, which, together with the distribution of the other wares, dates the group to 1340–1350.

The pit also produced two complete and two fragmentary hones: <4>, <5>, <6>, and <7> (Fig 5). Hones would have been common implements in households and workshops and on the person, as smaller examples with suspension holes could be suspended from a belt. All four hones from FUA02 are made from mica schist, probably Norwegian Ragstone. Three of the hones are worn from use; in all cases this appears to be

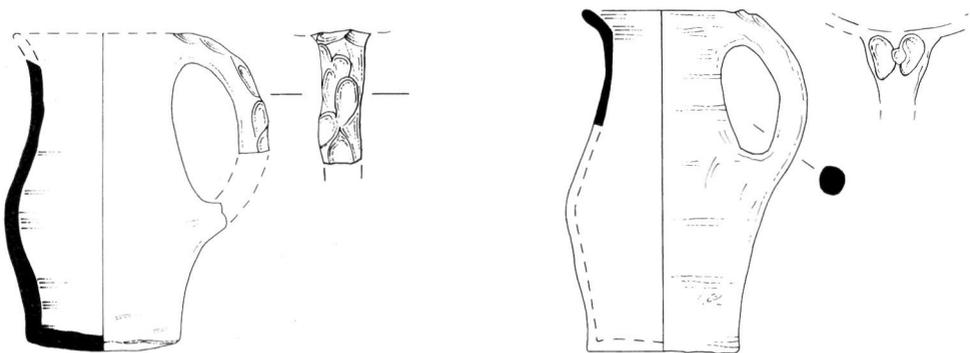


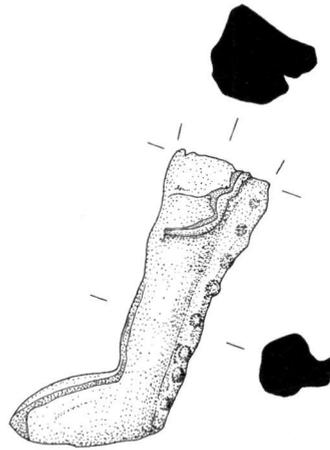
Fig 4. Pottery from deposit [69], hybrid baluster/rounded jugs in SHERL (Scale 1:4)



Fig 5. Hones from backfilling of pit [80]

from the sharpening of blades by holding them flat against the surface of the stone. Only one of the hones, <5>, appears to be unused or it may be a jagged fragment from a larger broken hone. They are likely to derive from a nearby large household or a workshop, such as a cutler's or bladesmith's. The only other accessioned find from this feature is a small lead-alloy leg <3> (Fig 6), probably from a table vessel such as a ewer or a salt. The leg is quite small with a beaded rib down its back. Similar vessels in copper alloy are quite common in the 14th and 15th centuries (Lewis 1987, 2-4; Egan 1998, 158-65), but are generally less common in lead alloys, possibly a reflection of the amount of recycling of lead-tin alloys that was undertaken (Egan 1998, 179).

The sample from the pit fill contained many fragments of wood charcoal, and a number of



*Fig 6. Lead-alloy vessel leg from backfilling of pit [80]
(Scale 1:1)*

charred cereal grains, chaff, and weed seeds. The grains were in poor condition, and many were fragmented, making full identification and quantification difficult. Over 200 grains were successfully identified, however, the majority being wheat (*Triticum* sp.) and barley (*Hordeum sativum*), with a smaller quantity of rye (*Secale cereale*) and a few grains of oats (*Avena* sp.). The wheat grains were rounded in shape, and resembled bread wheat (*Triticum aestivum* s.l.), the presence of which was confirmed by the identification of a single rachis fragment of this species. A small proportion of the wheat grains had protrusions from either the embryo or the apex end, apparently consisting of molten material from inside the grain, which had oozed out during heating and later solidified. In one case the chaff enclosing the grain at the embryo end remained fused to this material, indicating that the grain was burnt while still inside its spikelet. The barley grains tended to be flattened and often distorted, but twisted grains, indicating 6-row barley were seen to be present. A small amount of cereal chaff was found, consisting of rachis fragments of wheat, barley, and rye, and straw fragments included several culm nodes. The charred assemblage consists of 77% cereal grain, probably from more than one crop, with relatively small proportions of chaff and weeds. It represents cleaned grain, probably the result of domestic spillages, which would perhaps have been swept into a fire, whose ashes were then dumped into the pit. The small quantity of chaff and straw may be remnants of cereal-processing waste used as tinder for lighting the fire.

A number of charred weed seeds came mainly from plants of disturbed ground, and included corn marigold (*Chrysanthemum segetum*), cornflower (*Centaurea cyanus*), stinking mayweed (*Anthemis cotula*), and vetch or vetchling (*Vicia/Lathyrus* sp.), all of which are common weeds of cereal crops. Several larger, but very corroded, pulse seeds may have been horse beans (*Vicia faba*), but could not be identified with certainty.

A small assemblage of uncharred seeds was also present in this sample, some preserved by mineralisation. The majority of these come from plants of waste ground, and probably reflect the environment around the pit at the time of deposition. They include several nitrophilous species such as stinging nettle (*Urtica dioica*), henbane (*Hyoscyamus niger*), and elder (*Sambucus nigra*), which often grow around rubbish dumps where soil nitrogen levels are high.

The pit produced the largest and most diverse bone group from the whole site. The ox, sheep, and pig material derived mainly from carcass areas of moderate and good meat-bearing quality, with only very limited recovery of foot bones and no toe bones. Sheep/goat mandible derived from an animal between eight and ten years old. A single pig mandible derived from an animal in the second year of life (Schmid 1972). Clear butchery marks were seen on ox and pig material, with clear evidence for disarticulation and, in the ox, transverse division of the humerus and scapula to produce smaller 'joints'. A sheep/goat mandible showed ante-mortem loss of the first molar, with swelling around the alveolus (socket) suggesting an infection around the base of the tooth.

This pit was unique at the site as the only feature to produce fish and chicken bones. The fish, herring (*Clupea harengus*), eel (*Anguilla anguilla*), and cod family (*Gadidae*), were represented by vertebrae and skull elements. These species are common in the Thames estuary and on adjacent coasts, and are still of great economic importance. Whereas all three taxa are widely retrieved in quantity from most medieval sites in London, eels are closely associated with fisheries in the Thames itself. Herring, eel, and the cod family were very much the staples of the London medieval fish diet; this is clearly seen, for example, at St Mary Spital where they made up the majority of the assemblage throughout the medieval period (Locker 1997, 235). The chicken remains consisted of only three fragments of tibiotarsus (the 'drumstick'), each from very young juvenile birds. This may suggest fowl keeping in the vicinity.

Faunal material from other contexts of this period is derived mainly from ox (*Bos taurus*), sheep/goat, including sheep (*Ovis aries*), and pig (*Sus scrofa*), but also included mallard/domestic duck (*Anas platyrhynchos*). Pit [78] produced only a few fragments of ox, sheep, and pig. Sheep were represented by a skull and mandibles from an adult animal; tooth wear evidence suggests that the animal was between six and eight years old (Payne 1973). An ox radius had been chopped at the midshaft, the only butchery evidence from this pit.

Building 1: slumped floor and hearth

Subsiding into the earlier well, a series of horizontal deposits had survived later truncation

(Fig 3). A 100mm-thick, rammed brickearth floor slab was sealed by a thin layer of occupation trample. A burnt area over this trample may represent a temporary hearth. Several stakeholes are associated with this floor and hearth, and may represent contemporary structures.

Six sherds of medieval pottery were found in the trample over the brickearth floor of this building. The latest piece is from the rim of a Cheam ware barrel jug, which, unless intrusive, dates the group to after 1430. The others are from a London-type ware jug, two South Hertfordshire-type greyware cooking pots and two in Kingston-type ware/coarse Surrey/Hampshire border ware.

Structure 3

A small area of disturbed, burnt, pitch-tile hearth was recorded at the west of the site (Fig 3). It did not appear to be related to any other features, all other traces of its associated structure or building being presumably removed by later activity, unless it is associated with B1 to the south. The hearth was of peg-tiles, and sealed the disuse of the gully.

The latest features within Open Area 2 date to the mid-15th century. It appears that the buildings went out of use and were demolished, and the site cleared prior to the establishment of Open Area 3.

LATE MEDIEVAL/EARLY POST-MEDIEVAL, c.1500–1550

The Domesday Book records the growing of vegetables in Fulham in 1086, whilst by the 14th century the vegetable and fruit market in the City of London had grown to such a size that it had to be moved (Roach 1985, 24–5). Fulham became a centre for the growing of cash vegetable and fruit crops that were taken to the London market daily (Hartlib 1655; Feret 1900). Cartographic sources from Rocque onwards (Rocque 1746) show large areas of market garden both around and within Fulham. These market gardens range from large fields to small plots and orchards; within the historic core of Fulham the market gardens are smaller due to increased division of ownership as seen in MacLure's map of 1853 (MacLure 1853).

Open Area 3: market garden

The medieval activity was sealed by a 0.7m thick

homogeneous soil layer, the surface of which rose from 3.6 to 4.17m OD to the east. The soil would appear to have been largely imported to the site, as it overlies the late medieval structural features, although it would have increased in depth over time with the addition of manure *etc.* The medieval sequence has certainly been truncated by reworking of this soil horizon, which has removed much of the medieval floor surfaces. It would appear that this reworking of the soil layer may have had a terracing effect on the slope to the east of the site.

The lack of plough marks suggests that the area was being dug by hand, probably as part of a market garden; indeed many of the random stakeholes that have been ascribed to earlier periods could just as easily represent temporary horticultural frames or supports. The plot probably did not extend back into RGT98 due to the slope, although a similar soil deposit was excavated on that site at a height of 4.9m OD. The site can be seen as occupying a narrow plot along the side of the High Street.

A total of 27 sherds were associated with Open Area 3. One is from a drinking jug in early Surrey/Hampshire border whiteware, while four are from an early post-medieval redware jar, which together suggest a date of 1480–1550 for the deposit. The other sherds are all of medieval date (South Hertfordshire-type greyware, Kingston-type ware (KING), coarse Surrey/Hampshire border ware, Cheam whiteware, Tudor Green ware). The most notable find comprises five sooted sherds from a probable curfew with incised decoration in KING, a rare form in this fabric.

POST-MEDIEVAL, 1550 ONWARDS

Burystrete evolved into Berestrete, and by 1606 into Bearestrete; 'Bear Street' was used into the 19th century (Feret 1900, vol 1, 71). 19th-century engravings of the tenements along the High Street indicate a motley collection of inns and houses, many of which, when demolished, proved to be Tudor in date (Feret 1900). Excavations along the High Street have revealed 16th/17th-century footings set on reused masonry, and 17th- and 18th-century buildings with associated pitting, drains, and culverts (Harward 2003, Whitehouse 1985).

Rigault Road was constructed in 1898, and the west side of the High Street was widened for trams in 1909. The Victorian building No. 35 Fulham High Street survived up to the

present redevelopment, adjacent to the garage constructed in the 1960s on the site of Nos 31–33.

Building 2: masonry half-basemented building

At the west of the site a shallow cellared building was constructed (Fig 7). The cellar consisted of a masonry lining of reused greensand ashlar blocks and soft orange-red unfrosted bricks. Although the cellar walls had been partially robbed, a stretch of the eastern wall, and a mortar indication of the south wall, enabled the plan to be reconstructed. The cellar was constructed within a 0.5m-deep cut, and extended 3.9m north–south by over 1.2m east–west, extending beyond the trench. The surviving masonry lining was 0.25m thick, which suggests a timber-framed superstructure founded on a low cellar retaining wall. It is likely that the building extended to the street frontage. Within the cellar a thin layer of trample built up; this contained a residual, broken, copper-alloy strap-end <2>. The dating of the cellar is suggested by the use of reused masonry, and the presence of probable Tudor bricks. It is thought probable that Building 2 was constructed in the late 16th century.

An east–west brick partition wall was added within Building 2. It is possible that the building was extended to the south at this time, although due to modern disturbance the sequence was unclear.

Immediately to the east of the cellar wall was a well-laid path or surface of flints, bricks, ragstone cobbles, and peg-tiles (Fig 8). The surface was contemporary with Building 2 to the west. To the north the surface had been truncated by modern grubbing-out works, however it is likely to have extended behind the full width of Building 2. Two sherds were found in the surface. These comprise early post-medieval redware and Surrey/Hampshire border ware, which date the yard to 1550–1600.

A 0.7m-diameter cut through the path may represent a robbed post-setting, possibly relating to a structure behind Building 2. It is conceivable that the presumably substantial post carried a first floor that jettied eastwards, with the surface being a partially covered walkway beneath the overhang. Metropolitan slipware from the back-fill indicates a date after 1630, although this and the ceramics from the yard surface (dating to 1630–1700) may relate to the construction of Building 3.

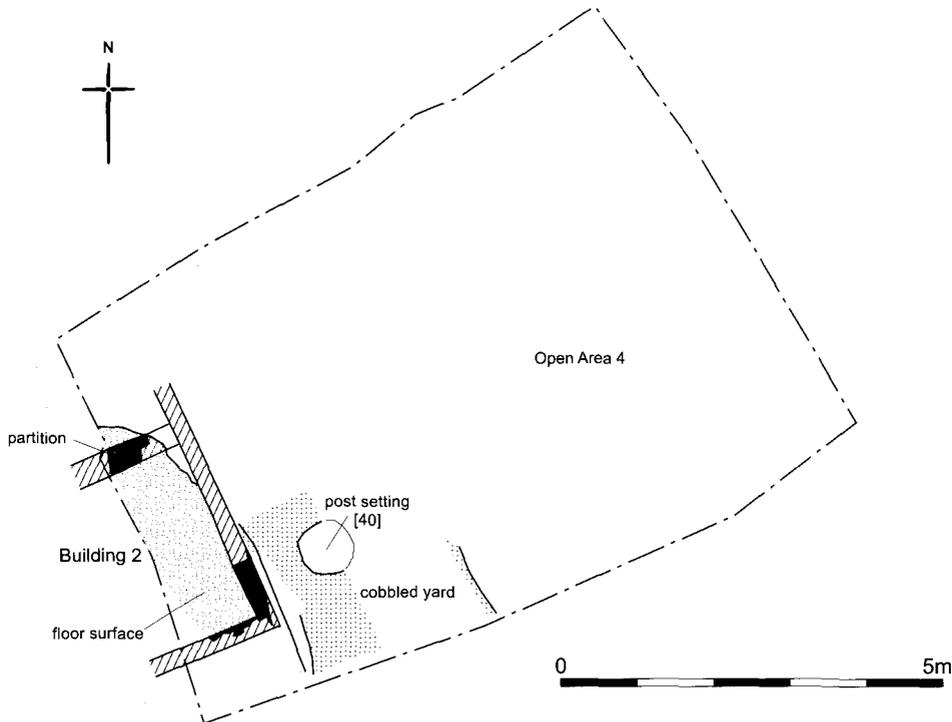


Fig 7. Late 16th-century building



Fig 8. Detail of the cobbled yard, from the west, with Building 3's external wall behind. Note the reuse of blocks of brickwork in the Building 3 footings

Building 3: Nos 31–33 Fulham High Street

Building 2 was demolished, partially robbed, and infilled with a homogeneous soil deposit. Six sherds were found in the backfill and levelling up of the cellar. These comprise post-medieval redware, Surrey/Hampshire border whiteware, and Frechen stoneware, which point to a date after 1600, but possibly before 1630/1650, for this event. The post-setting east of Building 2 was infilled after 1630, and a patch of brickearth laid over to make good the yard surface.

Subsequent to this a new, larger building was laid out, Building 3 (Fig 9). The building fronted onto Fulham High Street; however only the rear of the property lay within the area of excavation. The rear wall of the building is of brick, laid on a foundation of blocks of reused brickwork, with occasional reused ragstone blocks (Fig 8). It is possible that the wall reused an earlier robber trench, as the construction trench was wider than the wall on one side, and had a thin layer of chalk chippings in the base, although chalk

was not used in the new wall. The wall extended across the site from south to north, a distance of 6m, and, assuming the present street frontage is approximately the same as in the 17th century, the building would have been 6.75m deep.

A brickearth floor was laid up against a brick partition wall that divided the building, either into two rooms, or into two properties. This had been mostly truncated by modern grubbing-out works. A brick structure built butting onto the rear of the property represents the base of an external chimney. A square, shallow, brick lined structure (Structure 5) appears to relate to water management, possibly from a downpipe on Building 3; it was filled by a waterlain silt.

Pottery from Building 3 comprised post-medieval blackware, Surrey/Hampshire border redware, and brown-glazed Surrey/Hampshire border whiteware, all of which date to after 1580. In addition, nine sherds were recovered from the make-up layer for the floor. Two of these are medieval, but the others comprise Cistercian ware, post-medieval blackware, and

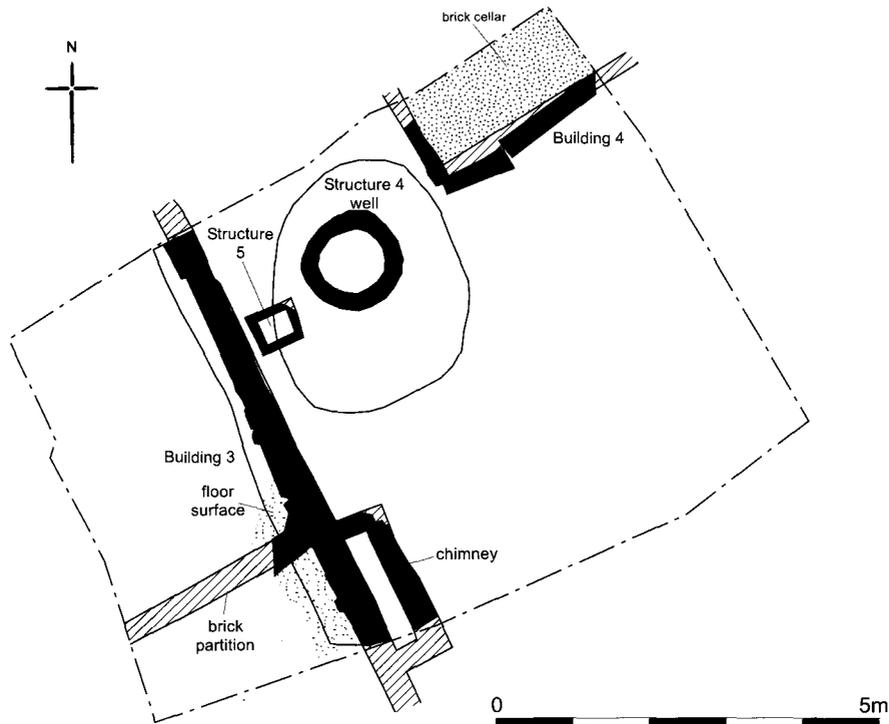


Fig 9. 17th century: Buildings 3 and 4

Surrey/Hampshire border redware (RBOR). The lack of later types and the fact that sherds from the same RBOR pipkin as was found in the construction trench are present show that this deposit is contemporary with the construction cut. The building therefore appears from the dating evidence to have been constructed in the mid-17th century, after 1630.

Building 4: long cellar

A half-basemented brick cellar was constructed at the east of the site. Aligned east–west, it extended beyond the eastern boundary of the site, with a length of over 8m; assuming it extended up to the property line to the north, it would have had a width of approximately 3m (Figs 9–10). The cellar had a floor of bricks and chalk blocks at 3.51m OD. It is believed that Building 4 was constructed at around the same time as Building 3, although there is no good dating evidence for the construction, beyond the brick type and the construction technique using chalk.

The building apparently met a violent end, with the brick lining severely disturbed. The

interior of the cellar was filled with a mix of rubble, glass, mortar and wood. It contained several jars and bottles, including an Express Dairies milk bottle from the 1930s.

Open Area 4: yard to rear of Buildings 3 and 4

The rear of the site appears to have continued in use as a garden or yard area, as there is no indication of any activities taking place within the garden area aside from Building 4 and Structure 4. It is likely that the area was used merely as a yard or back garden, possibly with limited cultivation.

Structure 4: brick well

A brick lined well was constructed within the backyard Open Area 4 (Fig 9). The well was circular and well built, within a large construction cut 3m in diameter. The top of the well had been grubbed out during demolition works, so the nature of any above ground structure remains unknown. Due to

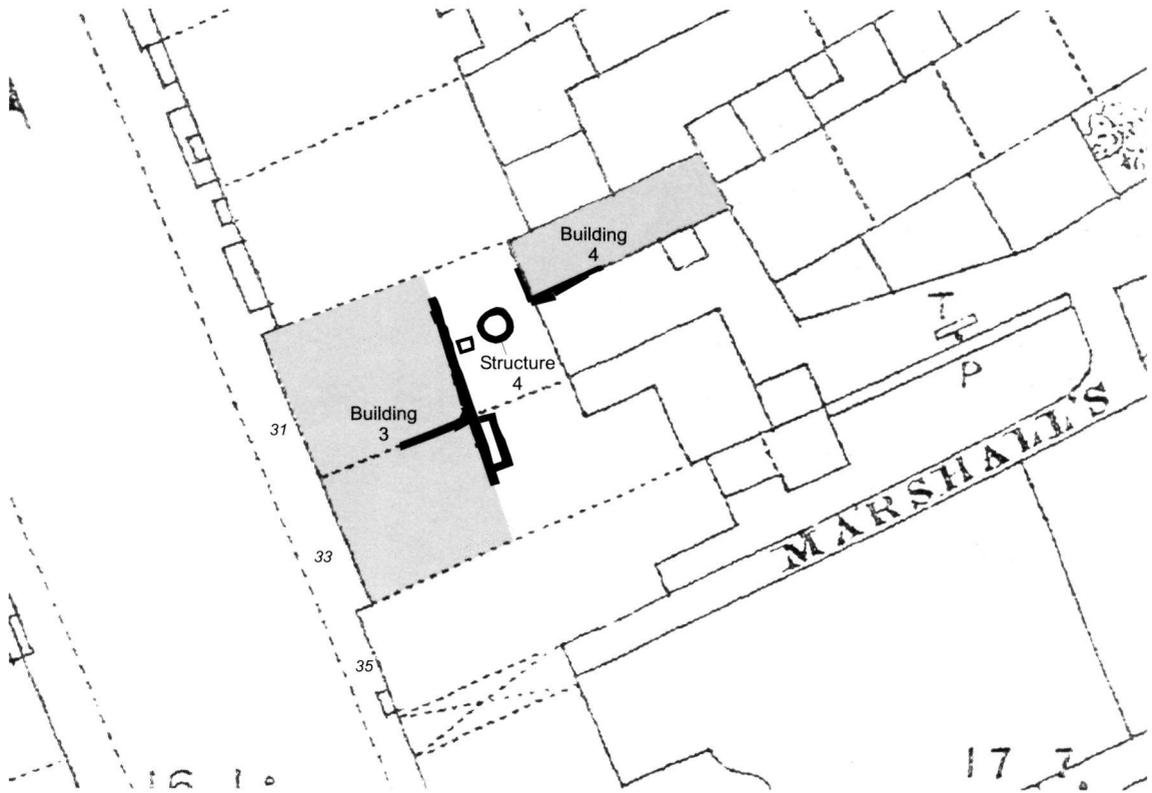


Fig 10. The 1866 Ordnance Survey map with Buildings 3 and 4 superimposed

the nature of the backfill it was not possible to augur to the base of the well, which was lower than 2.5m OD.

Seventeen post-medieval sherds were found in the construction backfill of the well, and residual medieval material was also present. Represented are Surrey/Hampshire border redware (RBOR), fine post-medieval redware, and a battered sherd from a tin-glazed ware dish with blue dashes round the rim. The latter is the latest diagnostic piece; if from Antwerp, it could date to the late 16th century, but it is more likely that it is from London and of 17th-century date. It would seem, therefore, that the well was constructed in the first half of the 17th century and was contemporary with Building 3. The other post-medieval fabrics comprise Surrey/Hampshire border whiteware, early post-medieval redware, and slipped post-medieval redware. Of note is a pipkin in RBOR, which has a kiln scar inside the base.

The well was backfilled with 19th-century rubble and plaster, probably at the time that the

well became redundant with the advent of mains water supply. No features such as sewer or mains water pipes, or foundations relating to post-17th-century structures were observed. These may have been grubbed out in the demolition process prior to excavation.

Although there is limited documentary or cartographic evidence for the area of the site until the Victorian period, the later development of the site can be outlined with some certainty. Cartographic sources from the 18th century show the site as being occupied by housing, at which time Buildings 3 and 4 would have been around a hundred years old (Rocque 1746). By 1843 a 3' 3"-wide alley ran down the south side of No. 35, which was itself probably early 19th-century (Fig 10). This 'Marshall's Alley', named after Greengrocer Mrs Marshall of No. 35, was replaced by Rigault Road in 1898 (Feret 1900).

The 1866 Ordnance Survey shows the site in some detail, and it is clear that the unexcavated No. 35 is already fully developed. Nos 31 and 33 are shown as two properties, with a long narrow

building to the rear, identifiable as Building 4 (Fig 10). The 1866 Ordnance Survey, and the subsequent 1894 and 1906 maps indicate that Nos 31 and 33 extend back further than the excavated Building 3, back as far as Building 4. It appears that this is due to the extension of both properties to the rear, encasing the original 17th-century building. It is possible that the façade was rebuilt at this time.

A photograph showing all three properties in 1935 shows No. 35 on the corner of Rigault Road, apparently partially rebuilt after the insertion of that road (Fig 11). Nos 31–33 are shown as a two-storey building with a gable roof, pitched at approximately 40 degrees. The ground floor is entered by a recessed, centrally placed, doorway. The entire ground floor is occupied by a Domestic Stores, with shopfront display. The first floor is pierced by two pairs of moderately tall windows, fairly flush to the walls. There are two chimney stacks, centrally placed along the property, one to the front of

the ridge, one to the rear in a position similar to the excavated chimney base. It is therefore clear that the properties were built at the same time (similar façade, sharing chimney stacks), and that the ground floor at least was amalgamated to create a shop.

A later photograph from 1979 appears to solve the problem of the eastward extension of the two houses. It shows the site of Nos 31–33 after they had been demolished. On the adjacent, larger, building the roof scar of No. 31 is clearly evident indicating a symmetrical gable roofed building; however two scars are clearly visible at the rear of the property, one at the point where the back wall of Building 3 was excavated, the other further east (Fig 12). The gable roof had been extended down to meet this later extension. It is therefore clear that Building 3, divided into two properties by the partition wall, was extended to the rear, at some point pre-1866. The lack of excavated evidence for this extension is slightly odd, however it may be that the foundations were



Fig 11. View of Nos 31–35 Fulham High Street, 1935



Fig 12. View showing roof scars of No. 31 Fulham High Street, No. 35 is shown standing, 1979

grubbed out at some point, possibly immediately prior to the excavation. By the demolition of Nos 31 and 35 in the mid-20th century, the houses, though clearly altered, were over three hundred years old.

THE CERAMICS

Medieval pottery

A medium-sized group of domestic pottery was recovered, ranging in date from the later 12th to the 15th century. Kitchen wares (jars, cooking pots, pipkins, frying pans, and dishes) and table/serving wares (jugs, drinking jugs, and lobed cups) are more or less equally represented.

Fabrics and forms

The complete range of fabrics and forms recovered is listed in the site archive. Taking the assemblage as whole, the most common fabric is Kingston-type ware (136 sherds). This mainly comprises the usual whitewares, with more or

less equal numbers of jugs and other forms. The latter include part of a frying pan and a pipkin with ladle handle, and part of a possible curfew with incised decoration that is heavily sooted both inside and out; this form is rarely found in Kingston-type ware, although one example was recovered from the Millenium Bridge site (Ayre & Wroe-Brown 2003, fig 44). The standard South Hertfordshire greywares are the second most frequent group; most sherds are from cooking pots and jars, but the group included sherds from five jugs, one with a double-thumbed handle ([90]). Also present, however, are two greyware jugs, both from [69], in a new fabric that has provisionally been listed as SHERL (Fig 4). These were analysed both in thin section and by ICPS (Vince 2003), and it was found that <P1> is made of Reading Beds clay, like the Kingston whitewares; <P2> contains similar inclusions but is finer and more reduced, and more like the usual South Hertfordshire-type greywares. Both fabrics are visually different from the greyware wasters recently discovered during excavations by PCA in Kingston (site codes CMK00, LDK01;

Jarrett 2001; C Jarrett pers comm). The chemical composition of the samples was compared with whitewares from Kingston and Southwark, and with greywares from a range of sources, both in Kingston and in Hertfordshire. It was found that the parent clay of the Fulham pots is most like that of the Kingston whitewares, albeit lying on the edge of that cluster, but not like some of the other reduced wares from Kingston (Pearce in prep; Vince in prep). Stylistically, however, the thumbled handles and other features of <P1> and <P2> are very much in the South Hertfordshire tradition, and this makes it difficult to suggest a source for these finds (see also below). The handles are of oval section; that on <P2> was either pushed through the wall of the pot or plugged from the inside, whereas the inner surface on <P1> is smooth. It is possible that some of the other finds recorded as SHER belong to this new group.

Post-medieval pottery

A total of 54 sherds of 16th- to later 17th-century domestic pottery was recovered. Most sherds derive from kitchen/serving wares, but some finer tablewares and part of a chamber pot were also found.

Fabrics and forms

The complete range of fabrics and forms recovered is listed in the site archive. Fabric types include Surrey/Hampshire Border wares, regionally produced redwares, metropolitan slipware, tinwares, and four sherds of imported stoneware.

Discussion

The medieval pottery mainly dates to the 13th and 14th centuries and can probably be related to buildings fronting onto Fulham High Street. The assemblage is of importance firstly as the first group of any size from Fulham, and secondly because most of the finds are stratified. All earlier groups are residual, comprising 38 sherds from Burlington Road (Blackmore 1983, 103), three sherds from 69a Fulham High Street (sitecode FUH97; Stephenson 1997), and two from Rigault Road (sitecode RGT98; Stephenson 1998); there has also been a general lack of published medieval pottery on other sites in the area (Blackmore 1983, 103; Thompson *et al* 1998, 66–7).

Given the general lack of material, the present

assemblage can only hint at trade connections, but it suggests that the main sources of supply were in Kingston and south Hertfordshire (the latter possibly marketed through Kingston or Uxbridge?), and Surrey wares also dominated at Burlington Road. This fits well with the location of the site near the Thames in west London, with easy river access to Kingston, but does not entirely explain why Kingston ware is twice as common as London-type wares, which could also have been easily supplied by river. The fact that Fulham is upstream from London may be a contributory factor, but local preference, and dating, must have also played a part. The Mill Green wares are unexpected in this area of London, as the type rarely occurs so far to the west of central London (Pearce *et al* 1982, fig 2). Late medieval Hertfordshire glazed ware is also uncommon in this area (Jenner & Vince 1983).

The most intriguing aspect of the assemblage is the identification of two greyware drinking jugs <P1> and <P2>, which relate to both the Kingston and South Hertfordshire industries, but are not completely like either. The jugs forms are also hybrids. No parallels for them were found in the recent corpus of jugs from Hertfordshire and London (Pearce in prep), and although they are related to the baluster-shaped drinking jugs made in South Hertfordshire-type greywares (*ibid*, fig 142, nos 1297–1300), they differ in having handles. The form is also related to the pear-shaped and small rounded jugs made in Kingston (Pearce & Vince 1988, figs 67–8), but is slightly more biconical than the former, and more slender than the latter; the thumbled handles are also clearly in the South Hertfordshire tradition. This suggests either a short-lived movement of clay from Kingston to an as yet unknown source in Hertfordshire, or a brief experimental period in Kingston, possibly instigated by a visiting potter from Hertfordshire. Dating is also problematic. In Kingston, the evidence suggests that the greyware industry was concentrated in the late 12th to mid-13th century (C Jarrett pers comm). In London, bottles in South Hertfordshire greyware occur in London contexts dating from 1180 to 1220 onwards, but are most common in the early 14th century, and this is in keeping with the dating of the London-type ware equivalents. However, as <P1> and <P2> are jugs, their dating may be different from that of the bottles, and would appear to fall between 1230 and 1270. In terms of forms the remainder of the medieval assemblage is typical of the period as a whole.

The post-medieval period is generally better represented on other sites in the area, notably at Fulham Pottery (Green 1999), and at the nearby sites of Burlington Road, (Blackmore 1983, 103–8), 69a Fulham High Street (Stephenson 1997), and Rigault Road (Stephenson 1998), where 1,010, 56, and 27 sherds were found respectively. Kiln debris, including pieces of kiln furniture, has been found at Fulham High Street, and in two contexts at Rigault Road, but there is nothing to show that the present site was close to that of the Fulham pottery. Indeed, the lack of 18th-century pottery is intriguing; unless the site was within a building or yard that was kept clean, it suggests that the development of the area in the mid-18th century led to the disposal of rubbish elsewhere.

ACCESSIONED FINDS

Stone hones (Fig 5)

<4> Pit [80]. Complete; L 160mm, W 22–26mm, Th 9–19mm. Mica schist, probably Norwegian Ragstone; all surfaces worn smooth from use. The hone tapers towards one end, both in width and particularly in thickness. The wear is indicative of sharpening blades by holding them flat against the surface of the stone.

<5> Pit [80]. Incomplete; L 144mm, W c.33mm, Th c.23mm. Mica schist, probably Norwegian Ragstone; fragmentary hone, very chipped; no utilised surfaces remain. Possibly used and broken or possibly an unused fragment.

<6> Pit [80]. Incomplete; L 170mm, W 39mm, Th c.28mm. Mica schist, probably Norwegian Ragstone; part of a large hone, broken at either end and with one surface partly missing. The two broader faces are worn smooth and slightly concave indicative of sharpening blades by holding them flat against the surface of the stone.

<7> Pit [80]. Incomplete; L 168mm, W 30mm, Th 16–22mm. Mica schist, probably Norwegian Ragstone; one end slightly rounded; the other appears broken. All surfaces are worn smooth from use; the two broader faces are slightly concave indicative of sharpening blades by holding them flat against the surface of the stone.

Lead-alloy vessel (Fig 6)

<3> Pit [80]. Incomplete; L 40mm, maximum Diam of leg 13mm, L of foot 20mm. A small leg and foot with a beaded rib along its back. It probably originated on a table vessel such as a ewer or a salt (for an example of the latter from the Victoria and Albert Museum see Egan 1998, 192, fig 156). Similar vessels in copper alloy are quite common in the 14th and 15th centuries (Lewis 1987, 2–4; Egan 1998, 158–65), but are generally less common in lead alloys, possibly a reflection of the amount of recycling of lead-tin alloys that was undertaken (Egan 1998, 179).

Copper-alloy strap-end (not illus)

<2> Trampled floor of Building 2. Incomplete; L 35mm, W 10.5mm. Part of a composite tongue-shaped strap-end comprising a near-complete sheet with a single rivet hole in its upper edge, a forked spacer, and a small fragment of the other sheet. This is a plain functional object that would have been attached to one end of a narrow strap (c.10mm wide). Strap-ends with forked spacers generally date to the 14th century, although they continue to occur in early 15th-century deposits (Pritchard 1991, 145).

DISCUSSION AND CONCLUSIONS

The results of the excavation have provided the most detailed archaeological evidence for the nature and type of occupation of the medieval and early post-medieval Fulham village. The excavations at the site, although limited in size, have indicated that fairly complicated stratified sequences can survive in a relatively unfragmented state within historic Fulham.

Too much can be inferred from a single excavation, however it is clear that Fulham was a dynamic settlement that adapted to changing times. The village does not appear to have expanded greatly, having been contained within fairly fixed bounds. It appears that the topographic feature along Back Lane formed the rear of the settled area of medieval Fulham: sites to the east of this scarp have produced only small assemblages of residual medieval pottery, presumably from manuring of fields and market gardens.

Activity within the medieval plots (Open Area 2) would appear to be alongside the medieval precursor to Fulham High Street. The widening

of the street in 1909 for the tramlines was on the western side of the street, and the 17th-century street frontage appears to be preserved intact (Fig 10). The medieval street frontage may therefore be largely the same as that of today. The medieval buildings will therefore lie largely under the western, unexcavated, part of the site. The presence of buildings within the excavated area, and the amalgamation of the two plots with the disuse of the gully (Structure 1), may indicate that there was population pressure on the site leading to development of the backyard areas, however this may merely be due to a fluid attitude to building locations.

'Backyard' activity within the plots is fairly limited, although good assemblages of artefacts were recovered, including an excellent assemblage of medieval ceramics. It appears that the semi-rural location meant that most of the rubbish and detritus from the occupation of the site was cleared off-site, presumably spread on the fields, although from the late 14th century there are repeated references to the dumping of rubbish and 'dung': both in the High Street, and onto the Manorial waste across the road (Feret 1900, vol 1, 9–10). The rubbish pits such as pit [80] may therefore be the exception to the normal disposal processes.

There appears to be no physical boundary to the rear of the plots, as the dividing gully (Structure 1) terminates before the scarp slope; although this could be explained by the fact that the brickearth also peters out at this point, and the sands and gravels beyond would not require formal drainage, the area exploited for pitting similarly respected the end of the gully. Whilst it is tempting to consider that the slope behind was sufficient boundary to the High Street plots, this has not been demonstrated archaeologically.

Whilst the market garden soil on the site is perhaps earlier than the rise in Dutch influenced market gardening documented by the 17th-century polymath Samuel Hartlib, small scale gardening enterprises were well established in the Tudor period (Hartlib 1655; Ernle 1936). It is interesting to note that on this site it was considered worthwhile to import large quantities of soil to create the garden soil, implying an extensive outlay of time, thought, and expense (and also that when the garden was built over, it was not considered worthwhile to sell on this well-developed soil). Small plots may therefore have been turned over to market gardening for a short period, and then built on afresh, possibly

due to landlords renting out plots to gardeners as demand increased for the crops. The larger fields, outside the medieval village core, were in permanent use as orchards and market gardens into the 19th century.

The abandonment of the market garden and the re-occupation of the site at the end of the 16th century is perhaps against the perceived trend to increasing development of market gardens in Fulham in the post-medieval period; however within the village core land was possibly of greater value as housing.

The construction of Building 2 is typical of excavated and observed examples in Fulham, with reused medieval masonry and brick footings (Feret 1900; Whitehouse 1985). It does not appear that the site was one of the many inns and coaching houses along the High Street, although the building does appear to have been not insubstantial, possibly of two floors with the upper floor projecting to the rear on supports. The limited width of the cellar wall indicates a dwarf wall carrying a timber superstructure; such half-timbered buildings were common along the High Street into the 19th century and Tudor fireplaces and timbers were noted in many old cottages only then being pulled down (Feret 1900, vol 1, 83–5).

The later Buildings 3 and 4, dating to the mid-17th century, appear to represent part of the piecemeal development of the High Street; documentary records indicate that throughout the 17th–19th centuries buildings were being converted, enlarged, and rebuilt on a regular basis, although many buildings survived for over two hundred years with only minor structural alterations (Feret 1900, vol 1, 91). The excavated Building 3, with its separate backyard cellar (Building 4), appears to have lasted for around three hundred years, and was extended prior to 1866. Fig 10 shows how Buildings 3 and 4 were retained and enlarged, with the property boundaries on the site lasting from the mid-17th century to nearly the present day — possibly also fossilising the medieval street frontage (see above). It is unfortunate that no cesspits were located within the area of the trench, as they might have provided useful information on the inhabitants, especially in the later periods where there is little physical evidence.

The archaeological sequence of activities on this site appears to be a microcosm of the development of this part of Fulham: the medieval tenements, the creation and growth of the market

gardens, the growth of the post-medieval historic core of the village, and the development of that core area, the retention and reuse of earlier buildings all appear to match the documentary evidence and the limited number of excavations in the area. Further investigations along the High Street since this excavation have already shown that there is considerable potential for further archaeological survival of all periods. It is to be hoped that further excavations in the area will expand our understanding of the settlement and its setting.

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THE HISTORICAL DEVELOPMENT OF SOMERSET HOUSE: AN ARCHAEOLOGICAL INVESTIGATION

Duncan Wood and Julian Munby

With contributions by K Atherton, D Brown, N Cameron, B Charles, C Cropper, S Dobinson, C Hayden, D Higgins, M Robinson, R Scaife, I Scott and R Thomson

SUMMARY

The Oxford Archaeological Unit carried out a series of archaeological investigations funded by the Heather Trust for the Arts in the South Wing and River Terrace of Somerset House, the Strand, Westminster, prior to conversion to hold the Gilbert Collection. The investigations consisted of a building survey of the basement and mid-basement levels of the South Wing and River Terrace, and detailed recording of the mezzanine timber floor of the River Terrace which was to be removed. The main area of below-ground impact was the excavation of the River Terrace, including the remains of the 18th-century Bargehouse, the lowering of the floor of the South Wing and the insertion of lift pits, air ducts, and a newer sewage system which affected the partition walls and relieving arches within the building. In the course of these investigations the riverside wall and parts of the gardens associated with the Tudor palace which occupied the site before Somerset House were uncovered. A series of analyses on pollen, diatom, plant, and mollusc remains indicates something of the character of the economy and environment of this palace. Within Somerset House itself the original form of the dock for the royal barge and its associated pump-house was revealed as well as other aspects of the construction of the building. The trussed floor of the River Terrace and other aspects of the Georgian structural carpentry revealed in the building survey are discussed.

INTRODUCTION

Somerset House is a major 18th-century govern-

ment office building fronting the Thames on the site of an older urban palace. It is a Grade I Listed Building and lies within an Area of Special Archaeological Priority as defined in the Unitary Development Plan for the City of Westminster (1991). As a condition of the planning consents the Oxford Archaeological Unit (OAU) was commissioned by Peter Inskip and Peter Jenkins Architects on behalf of The Heather Trust for the Arts to undertake a programme of investigation and recording in response to the conversion of the South Wing and River Terrace to accommodate the Gilbert Collection. This paper presents the results of the building survey and field investigation carried out by the OAU.

BACKGROUND

Site location

Somerset House lies to the south of the Strand (NGR TQ 3075 8075) and is bounded to the south by the Victoria Embankment, to the east by King's College, and to the west by Lancaster Place (Fig 1). The conversion affected only the southern part of the property, comprising the South Wing and the River Terrace. Alterations were made in several parts of these buildings. The River Terrace, including the Great Arch and Bargehouse, was substantially cleared of below-floor deposits, and the original trussed mezzanine floor was removed. The floor of the South Wing was lowered and lift shafts were

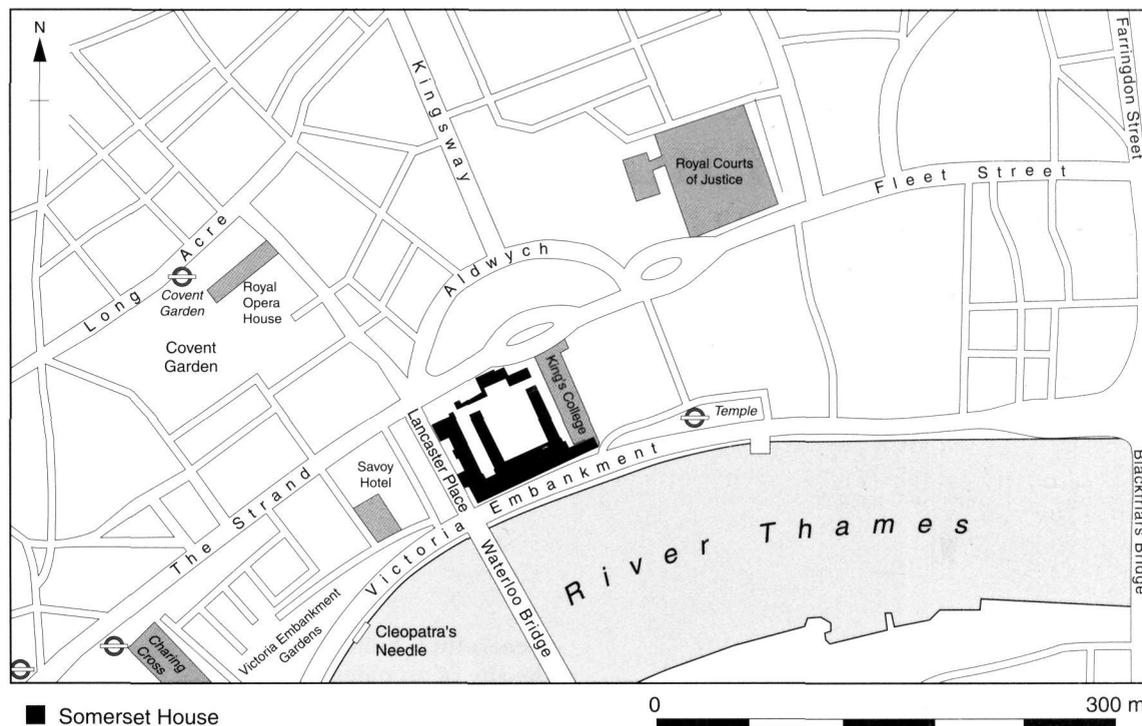


Fig 1. Location map

excavated. In addition, a number of air ducts, sewage pipes and associated manholes were cut from the River Terrace into the South Wing across the lightwells that lie between these two parts of the building, and numerous minor alterations were made.

Previous work

Thirty-five test pits were excavated at Somerset House by the Museum of London Archaeology Service (MoLAS) between August 1996 and October 1997 in order to provide technical information about the foundations of the 18th-century Somerset House, to produce a detailed plan of the alignment of the Tudor river wall in relation to the existing building, and to assess the archaeological impact of the current renovation proposals (Chew 1997, fig 29).

These test pits revealed the Tudor foreshore and river wall as well as certain features of the gardens which lay behind them. The wall was well preserved beneath the later building. Tudor and post-medieval deposits overlay the foreshore and abutted the river wall. The

remains of the 18th-century Bargehouse were found overlying the foreshore, which had been partially truncated by the foundations of the South Wing and River Terrace. Exposed areas of the Tudor river wall and the foundation trenches for the River Terrace and the South Wing were themselves sealed by 18th-century dumps and features deriving from various phases of remodelling. The Bargehouse was backfilled in the 19th century following the creation of the Victoria Embankment.

Archaeological and historical background

The historical development of the Somerset House site has been treated in the *History of the King's Works* (Colvin *et al* 1976; 1982), more recently by Newman (1990), and in studies of William Chambers (Harris 1970). The 'Somerset House Conservation Plan' (Inskip & Jenkins 1997) now forms a fundamental account of the building, comprising a general description, detailed surveys, and a collection of subsidiary data covering the whole of the building's history.

Saxon

The identification of the middle Saxon town of *Lundenwic* beneath the Strand and Covent Garden provided one of the reasons for designating this an Area of Special Archaeological Priority (City of Westminster 1991). Excavations at Arundel House carried out by Pre-Construct Archaeology, which ran concurrently with the excavations at Somerset House, identified timber revetments that are believed to relate to the Saxon period. However, little evidence for Saxon activity has been identified on the site of present-day Somerset House. The excavations undertaken by MoLAS recovered three Saxon sherds (Chew 1997, 131). A small quantity of Ipswich ware from a testpit beside the Courtauld Institute library observed by the OAU in 1998 has now also been identified.

Later medieval

From the late 12th century the area along the Strand became a focus for the construction of the London residences of nobles and ecclesiastics. Anthonis van den Wyngaerde's panorama of London in 1543 clearly shows that the area of Somerset House was occupied by Thameside gardens and townhouses, inns such as those of the Bishops of Chester, Worcester and Llandaff, and by the churchyard of St Mary le Strand (Schofield 1995).

Post-medieval

Between 1547 and 1550, Edward Seymour, the Duke of Somerset and Lord Protector, ordered the demolition of the medieval buildings on the site, including the church of St Mary le Strand, to make way for the construction of Somerset Palace. The date at which this palace was completed is not known. Agas' map of 1551 clearly shows Somerset Palace with a formal garden and the river wall with a flight of steps stretching down to the river, though the building is recorded as having still been unfinished in 1598.

The Duke did not live long to enjoy his new residence. Following his execution in 1552 the new house was confiscated and became the residence of Princess Elizabeth who lived there until 1558. Henceforth its history was recorded in the records of the King's works. Part of the house was later returned to the Duke's son, the

rest being used as grace and favour apartments during Elizabeth's reign (Colvin *et al* 1982). The house was subsequently used as the residence of Anne of Denmark, Queen of James I, and by Henrietta Maria, Queen of Charles I. The chapel and grounds sustained some damage when they and the palace were occupied by Parliament during the Civil War. Following the Restoration the palace was returned to Henrietta Maria. Construction of a gallery along the river front façade, believed to have been designed by Inigo Jones who died at Somerset House in 1652, began in 1661. The development was, however, suspended in 1664 for financial reasons. The gardens were later relaid in the Italian style, and survived long enough to be recorded in plans (Fig 2) and various views and paintings of Thameside London.

Following an Act of Parliament proposing the construction of the first purpose-built government offices, work on the present Somerset House began on 26 May 1775 (Colvin *et al* 1976). The building was eventually designed by Sir William Chambers who began work in 1776 on the present North Wing. The East, West and South Wings were added later around a central courtyard, raising the ground level substantially above that of the old palace and garden. The River Terrace was completed by 1790, taking the building out onto the foreshore of the Thames. The Great Arch in the centre of the River Terrace gave access to the Royal Bargehouse and allowed boats and barges to reach a service entrance below the Navy Office. The latest of Chambers' building designs indicates that the King's Bargemaster was accommodated in part of the Navy Office and other apartments below the Terrace. The Bargehouse was infilled at the time of the construction of the Victoria Embankment by Bazalgette between 1864 and 1870.

Scope and methodology

The investigation consisted of two parts: a building survey and a watching brief. The methods employed in the building survey (Munby 1997) in the South Wing and River Terrace ranged from general assessment of the fabric and recording of its appearance to detailed investigation and recording of the fabric where it was to be altered or removed. The floors were recorded in plan, section, and detail drawings prior to removal; a general photographic survey was supplemented by

photography of individual works before and after alteration. Extensive written and sketched notes of the investigations were supplemented by more detailed context-based recording as required. Samples of materials were taken for comparative study, and a selection of artefacts, especially paper, ceramics, and bone, was made from those found within the building fabric. A few fragments of the trussed floors have been retained.

The watching brief covered all of the excavations relating to the conversion and renovation of the buildings. No excavations took place purely for the analysis or assessment of the archaeological resource, although provision was made for further excavation of the 18th-century Bargehouse and of garden features to the north of the Tudor river wall beyond the limits defined by the conversion design.

Buried structural features relating to Chambers' Somerset House were recorded as they were exposed, and where possible they were identified using documentary and pictorial sources. A detailed record was made of any deposits relating to the Tudor gardens and structural features of the river wall, and of deposits sealed by Chambers' original floors which may have contained demolition material from Somerset Palace. The majority of the material actually found was, in fact, unworked and was recorded before being discarded. The records are now held by Somerset House Ltd.

The excavation was conducted by contractors under archaeological supervision so that archaeologically sensitive material could be investigated and recorded when encountered. The level of supervision varied: in areas of minimal impact the archaeologist observed the contractors' excavation; in more sensitive areas the archaeologist controlled the contractors' excavation. Excavations within the South Wing and the east and west lightwells were carried out entirely by hand. Excavation within the River Terrace was carried out both by hand and by a mechanical excavator with a toothless bucket.

THE TUDOR PALACE (Figs 3–4)

Excavations within the South Wing and in the western lightwell (between the South Wing

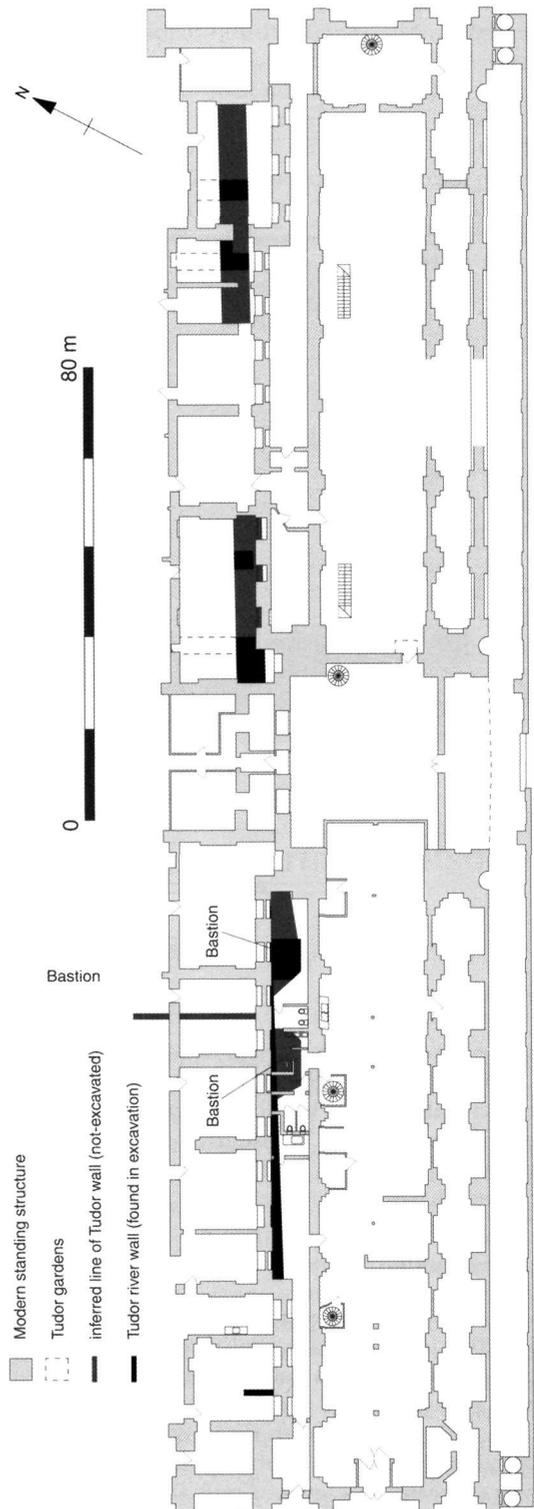


Fig 3. Plan of the Tudor river wall and features of the gardens of Somerset Palace

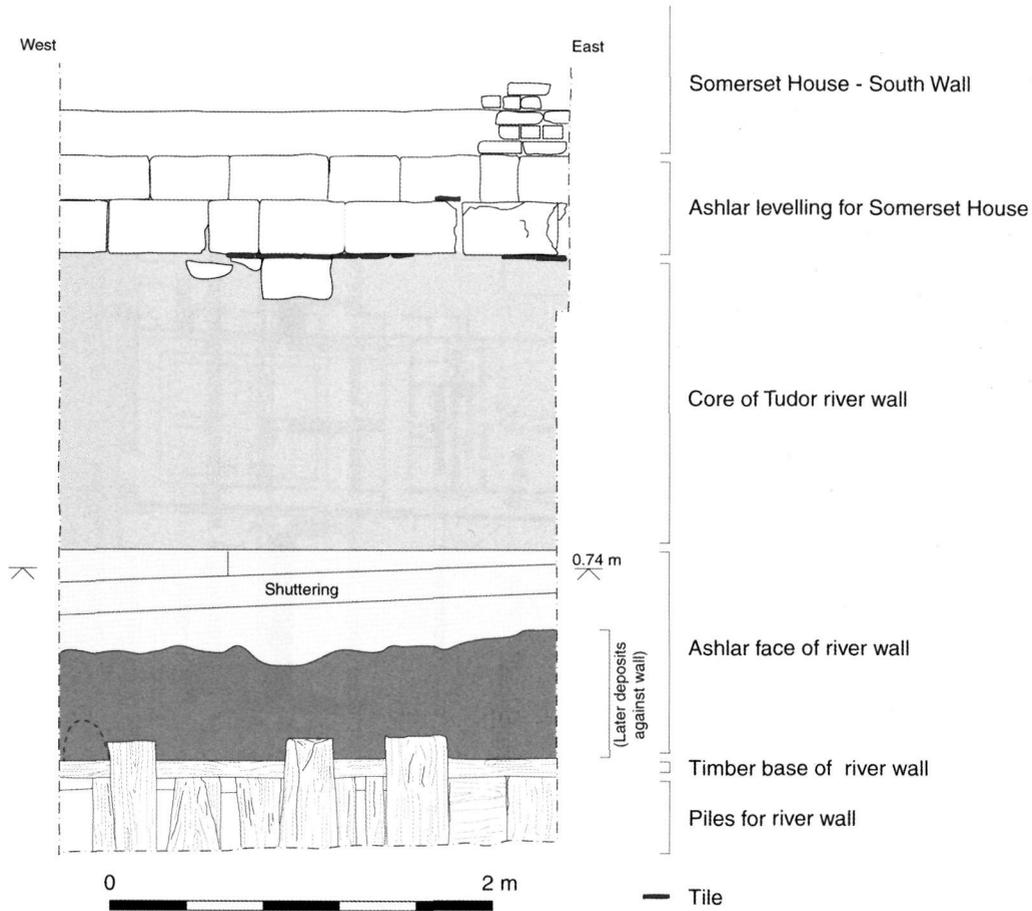


Fig 4. South-facing elevation of the Tudor river wall with Somerset House above

and the River Terrace) revealed several features related to the Tudor Somerset Palace, including the river wall and two bastions projecting from it, two walls forming the boundaries of the palace's gardens, and path or yard surfaces dating from the later phases of the garden.

The river wall

A length of the southern face of the Tudor river wall c.20 m long, running slightly obliquely to the existing building, was revealed at various levels in the excavations in the western lightwell (Fig 3). The wall was faced with Portland ashlar which covered a limestone rubble core. The ashlar facing survived to a level of only 0.84m OD, but the core to 2.36m OD. The core was supported by a dense raft of elm piles capped by a 0.1m-

thick elm base plate at a level of -0.26m OD (Fig 4). These timber foundations were revetted by a series of elm posts up to 0.3m thick. To support the base plate the tops of the timbers were all cut with a 0.05m wide lap joint, indicating that both were constructed at the same time. The posts were driven through a layer of grey silt which contained a single sherd of 15th-century Surrey White Ware. Samples for environmental analysis were taken from this deposit, and from the deposits above which had built up around the pile foundations of the river wall (see below 'Environmental evidence').

The rear face of the Tudor river wall was exposed at various levels in two trenches below the eastern end of the South Wing. The core of the wall survived here to a level of 2.81m OD, and a section of the wall's parapet to a height

of 3.59m OD. The rear face was constructed from Greensand with inclusions of chalk and limestone. The riverside face had been robbed of the Portland ashlar blocks, presumably during the construction of the present-day Somerset House.

No construction cuts for the Tudor river wall were visible, suggesting that it was a free-standing construction built from a lower level, and that the garden deposits had subsequently built up against its rear face.

The bastions and stepped ashlar

The excavations in the western lightwell also confirmed the location of two bastions projecting from the river wall which are shown in plans of the palace (Fig 2). The western bastion, originally roughly trapezoidal in plan, had been truncated by the north wall of the River Terrace and by an 18th-century brick culvert. Its rubble core survived to a height of only 0.16m OD on either side of this culvert. Its face was exposed for a depth of 0.2m. Only two of the Portland ashlar blocks which originally faced the bastion survived *in situ*, although the position of a third was identified. It was supported by a lattice of elm planks, five of which were identified in plan. The three north–south orientated timbers were 0.15m thick and were laid 0.2m apart. The two east–west timbers were 0.28m wide and set 0.14m apart. The depth of the foundations could not be ascertained due to the confines of the trench. A grey-brown silt consistent with natural Thames foreshore silts was identified between the elm timbers. No datable material was recovered from this deposit.

The eastern bastion consisted of a trapezoidal outwork faced with Portland ashlar. It had been truncated to a level of 0.85m OD, and, although its south face was exposed to a level of 0.15m OD, no foundations were identified.

A series of seven offset courses of Portland ashlar overlay this bastion to a level of 2.88m OD. Although this construction was not part of the original river wall it did follow its alignment. Its date was unclear, but it probably formed part of a refacing of the Tudor river wall following the demolition of the bastion.

The garden walls

The reduction of the floor level within the South Wing exposed Tudor deposits in several areas

north of the Tudor river wall. These included a roughly north–south aligned limestone wall which survived 0.15m below the existing brick floor near the western side of the present building. It was constructed from a mortar and limestone rubble core faced with irregularly sized, squared limestone blocks. It ran parallel to a similar construction identified by MoLAS further east. The alignment of both walls, and their positions relative to the bastions, follows that of the walls of the chapel garden shown on the survey map of 1706 (Fig 2).

Garden surfaces

In both of the areas where it was exposed, garden surfaces were found against the rear face of the river wall. These typically consisted of successive crushed tile and mortar or chalk surfaces interfaced with silty clay horizons. A total of six sherds of pottery was recovered from these deposits. The stratigraphically earliest context containing pottery was a crushed chalk floor which contained a single sherd of Frechen Stoneware dated to the late 16th or early 17th century. This was overlain by a second chalk surface which abutted the rear face of the Tudor wall.

SOMERSET HOUSE: THE BUILDING SURVEY

The River Terrace

The initial design (Fig 5)

The River Terrace was constructed out on the foreshore of the Thames to function as a grand riverside walkway in front of Somerset House, the internal spaces being used for utilitarian purposes. These were first intended to consist of a Bargehouse in the centre, and a stable and coach house at the west end for the Navy Commissioner's House, with the upper floor being used for storage and office space (Fig 5). The east end was intended to be a house for the King's Bargemaster. The River Terrace is perhaps less well documented than the rest of Somerset House and more reliance has to be placed on the plans, and especially the physical evidence found in the building, than is the case elsewhere. It is possible that the mezzanine floor was not originally planned, for the brick vaulted ceiling would have made a superb space for the Royal

Bargehouse. Nevertheless within the time that the building plans were being finalised it had been decided to put storeyed ends to the range, and to put a floor over the whole of the internal space, for this is all clearly of the primary building phase.

The difficult ground formation and heavy loading of a brick vaulted structure caused concerns from the start, and every effort was made to provide a secure construction. This was achieved by substantial foundations, the use of trussed floor joists at mid-basement level, and iron ties across the building in that floor and at the base of the vault (Fig 6). The recent works for the new gallery entailed the removal of the original mezzanine flooring in the western half of the building (the eastern half having already been cleared in 1872–74 for the insertion of the Probate Registry store).

The trussed mezzanine floor (Figs 6–7)

The mezzanine floor was of some considerable interest as an example of a short-lived experiment in 18th-century structural carpentry techniques. The removal of the timber floor allowed a detailed examination of its construction and the alterations made to it. Although the floor is not clearly apparent on the design drawings, its construction must have been contemporary with the building, as the relationship of the principal joists, the iron ties and the brick walls implies a simultaneous construction. The composition of the principals is of especial interest (Fig 7), being trussed girders of pine and oak, essentially consisting of a pair of substantial pine planks channelled to receive the members of an oak truss made of lengths running between individual dovetail wedges (like the joggle of a trussed roof). The system depended on the means of fixing the parts together: the oak trusses were wedged in place at the outer ends, while the pine planks were pinned together with six iron bolts (with screw nuts), and held in the walls with iron ties and external pattress plates. The intended principle of these girders was that they increased the potential loading through the vertical compression force on the beam putting the girder into tension through the action of the truss; that is to say that a vertical force

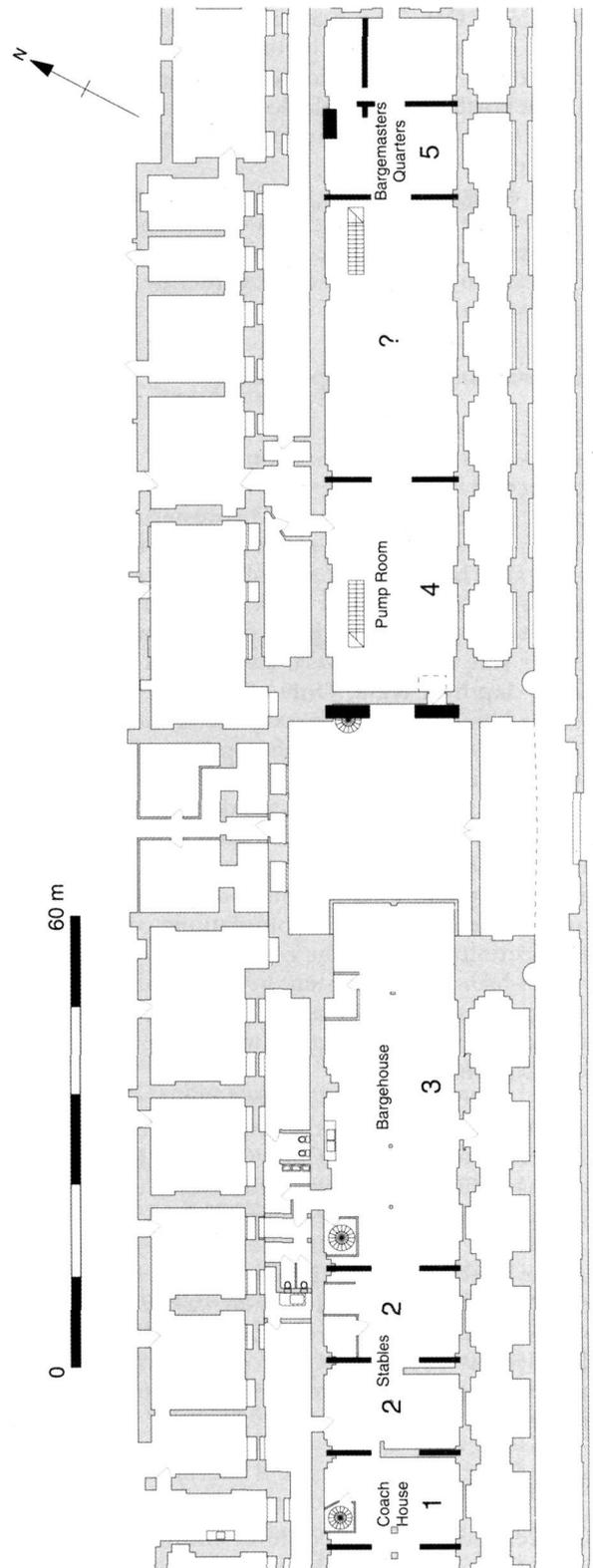


Fig 5. *Plan of original functions of spaces in the River Terrace*

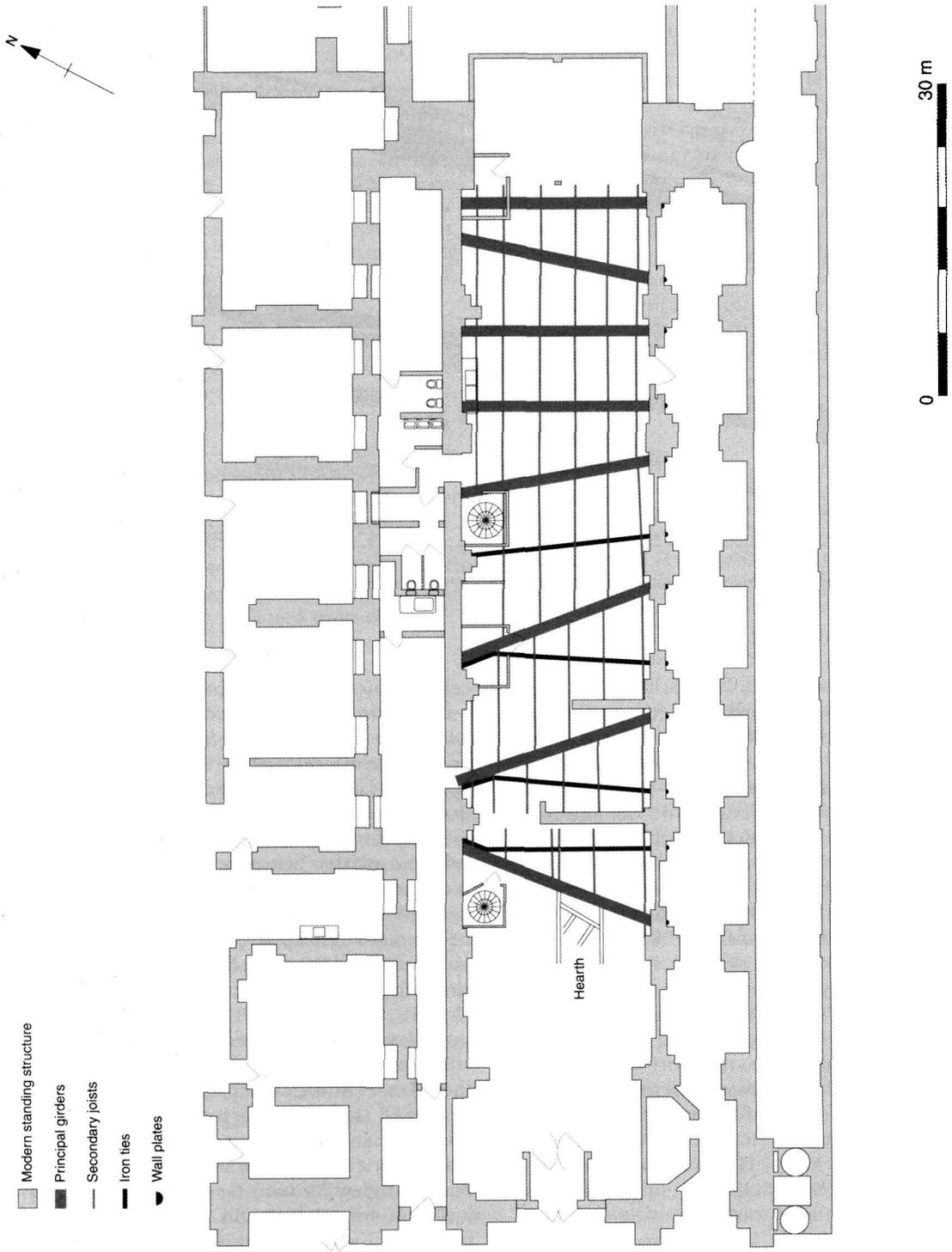


Fig. 6. Structural features of the trussed mezzanine floor, and site of former hearth

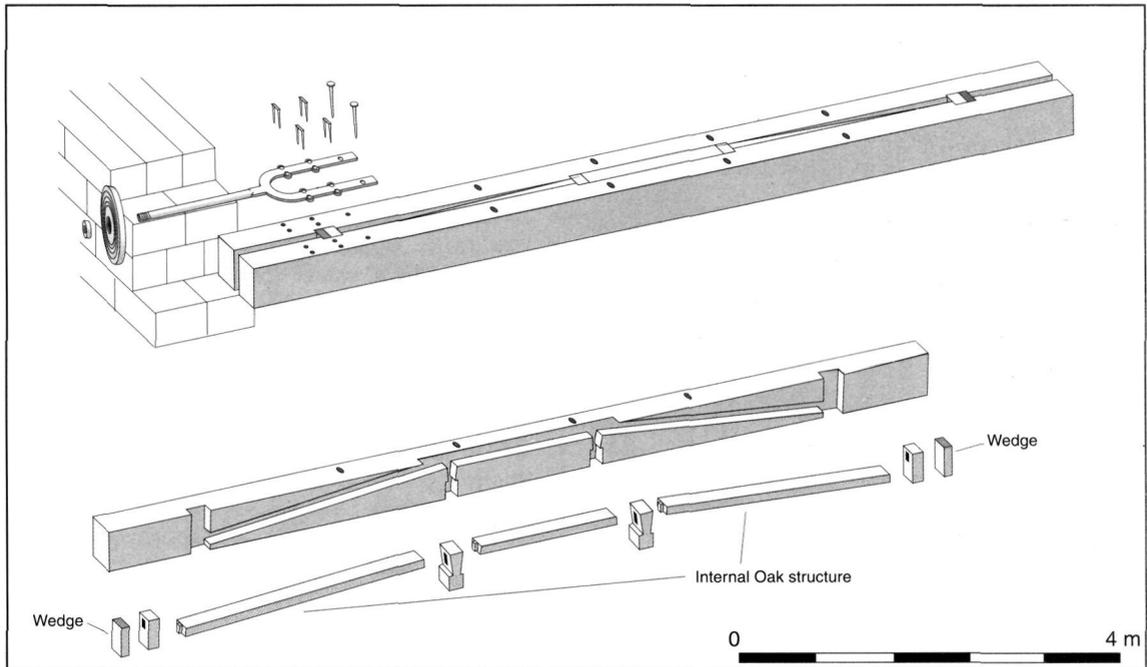


Fig 7. Composition of the trussed girders from the mezzanine floor (bolts omitted)

on top of the oak truss would be distributed to the side members acting on the wedges at their ends which would push out the ends of the pine planks with a resultant tensile effect on the whole. As Yeomans says, 'The intention of this trussing was to reduce the deflection of long spanning beams which would otherwise sag noticeably under load, but it was also mistakenly thought that trussing strengthened the girder, possibly because stiffness was associated with strength at the time' (Yeomans 1992, 139).

The trussed girders were laid, as was the practice, either straight or diagonal, in order to avoid loading over windows and entrances. A consequence of the diagonal setting of principals was that a further series of iron tie rods was required to provide the regular series of ties and pattress plates flanking the windows; these were iron bars 40mm square, joined at the centre with a wedged scarf joint. The intermediate floor structure was of good quality, but unexceptional, with six secondary joists running off the principals (numbered in pairs from south to north: I, I, II, II, III, III), carrying both common floor and ceiling joists. While the common floor joists stand proud of the secondary joists, the

ceiling joists (running between a mortice at one end to a chased groove at the other) are flush with the underside (soffit) of the joists so as to make a level surface for ceiling laths to be applied. A detail found throughout the original floors was the insertion of soundproofing below the oak floor boards: this consisted of a strip of lath and plaster between each pair of common floor joists, supported on battens nailed to the joists. While the numbering of the principals was not immediately apparent, the bays were clearly numbered on the centre of the secondary joists running east to west, starting from the centre (Nos III, IIII, V, [VI], VIII were observed on the surviving sections of primary floor).

The trussed floor was evidently in use from the 17th century, and was used by Wren, and described in various carpenter's manuals, such as James Smith, *Carpenter's Companion* (1733), Francis Price, *The British Carpenter* (1733), and Batty Langley, *Builder's Complete Assistant* (1741); it is of interest that the form used here (with the four oak joggles) is unlike that illustrated by Price (where the truss has no central horizontal section). By the 19th century iron bolts were substituted for the oak joggles, as illustrated by

Peter Nicholson, *Nicholson's New Carpenter's Guide* (1833), and used by Soane. However, Thomas Treadgold, *Elementary Principles of Carpentry* (1840, 80) poured ridicule on the idea of trussing:

The methods in general adopted for that purpose have the appearance of much ingenuity; but in reality, they are of very little use. If the girder be trussed with oak, all the strength that can possibly be gained by such a truss consists merely in the difference between the compressibility of oak and fir, which is very small indeed; and unless the truss be extremely well fitted at the abutments, it would be much stronger without trussing.

Treadgold (1840, 81) goes further to describe experiments carried out on trussed beams, and comment on the methods proposed by earlier writers:

The attempt to make a solid beam stronger in the same bulk, without using a stronger material than the beam itself is made of, is ridiculous; yet such has been the aim of most of these writers.

Still he does not go so far as to suggest that the floor could not support its own weight, a more recent notion that contributed to its demise.

The stables and coach house

The stables and coach house at the west end of the River Terrace were planned for the Navy Treasurer's House, which was in the outer west wing of Somerset House. The ground floor level of the service road gave access to the water gate onto the Thames, with the Treasurer's cellars and coal shed on the west, and on the east side a two-bay stable yard, a coach house, and two bays of stables; the horses were led round the portico at the south front of the building. On the floor above (the servants' floor and kitchen of the main house) there was no connection across the yard or the water gate, but there was a room over the coach house with two beds for the stablemen and an adjacent hay room, both reached from a stair in the stable (Chambers' designs at Sir John Soane Museum, 41/4/56-70). The 'final plans' of Somerset House do, however, seem to show rooms across the water gate (a pantry and larder), with a larger room above the coach house (now 'Secretary Navy Kitchen'), and beyond this to the east a large 'Repository for Navy Books' over the stables and Bargehouse (*ibid*, Nos 41/1/10-11). There was almost no trace of any of these arrangements remaining in the building,

except for the indication of a fireplace found beneath the floorboards above the coach house. The hearth support took the form of an arch of bricks laid on their sides running between two floor joists, and supporting a layer of mortar and brickwork. In this bay of the floor there are five rather than six common joists, the central one being a close-set pair with a diagonal trimmer next to the hearth bricks, and two subsidiary joists flanking the hearth. This entirely conforms with the situation shown on the 1832 plan where the coach house has been divided into two with a corner fireplace in the north-west corner of the south room on both ground and first floor (PRO WORK30/277 and 279). Since the trimmers for the hearth appear to be of primary construction this suggests that the 'final plans' do not actually represent what was built.

Later alterations

The successive changes from Navy to Stamp and Inland Revenue offices in the River Terrace during the 18th century required a revised access and room layout (Inskip & Jenkins 1997, 21-6). Alterations were made at the western end of the mezzanine floor, with the formation of a bridge across the water gate entrance by Pennethorne in 1852-55, and even if these areas had been partly floored they were now renewed. All the western bays have a simple floor of principal joists running east-west and common joists running north-south, of no special interest (though with some reused timbers). Later uses of the mezzanine office were reflected in the wear patterns on the floor; clearly to be seen were the heavily used walkways round 'islands' where large desks or machinery had been located. These changes continued into the 20th century under different uses, with the most notable change being the introduction of steel support to the floors. In the eastern end of the building (and the two bays west of the Great Arch) the conversion of the Stamp Office to the Record Store in the 1870s (and the removal of the racking prior to the investigations) had left little evidence except doors and stairways to the former mezzanine floors. A series of steel joist floor reinforcements (and more tie bars to the vault) in the west part resulted from the removal of walls in the 19th and 20th century, and the introduction of embossing and printing machinery.

The South Wing

The initial design

The character of Chambers' design for the South Wing of the courtyard, and in particular the hierarchy of design and fittings between the floors, has been described in the Conservation Plan (Inskip & Jenkins 1997, 75–82). The majority of the recent works subject to the watching brief were in the lower levels, and the South Wing was built with deep two-storey basements, with narrow lightwells both at the front towards the courtyard and at the rear towards the River Terrace. There was thus a fairly elaborate provision for borrowed lights with windows between the rooms and the central corridors.

Two features of note were revealed in the strengthening of floors and creation of lift-shafts. While the primary floor construction, where surviving, was generally similar to that in the River Terrace (though without trussed girders because of the lesser span), there was the curious feature of the corridor at mid-basement level being alternately spanned by the principal joists from the front and the back of the building. This was achieved by taking the large principal joists from the front or back through a hole in the wall and across to the other side of the corridor (but never across the whole building). This can only have been achieved when the building had reached that level, and is slightly curious in that the lower passage was brick vaulted, and a floor could easily have been constructed without bringing in the principal.

The floors of the lift shaft just east of the central hall were investigated and found to be of the same general character as elsewhere, with three secondary joists running east–west between the principal and the brick wall, carrying the double system of common floor and ceiling joists. The central secondary joist was truncated by the trimmer for the hearth in the west wall, and this was carried on the two outer secondary joists, with the two flanking joists round the hearth being tusked through the trimmer and pegged in the usual manner for hearths. The hearthstone itself rested on a layer of plaster and winkle shells (presumably overlying a brick arch), perhaps intended as a heat-resistant layer.

Later alterations

The South Wing underwent a series of changes

of use of the spaces by the Salt, Stamp and Navy Offices, Inland Revenue, and Probate Registry. Observations on the historic modifications to access and the arrangements of doors and windows, and the recent alterations have been recorded systematically, but do not significantly alter the existing account of the building or the information derived from historic plans. One of the less obvious features was the provision in the Second World War of safe ceilings in the basement levels, including concrete and timber vaults, presumably to protect the lower floors against collapse above. Some bomb damage in the south-west corner had been repaired by extensive rebuilding, and some of the surrounding floors at ground (courtyard) level were found to have been replaced with concrete.

SOMERSET HOUSE: THE EXCAVATIONS

Investigations in both the South Wing and the River Terrace revealed details of the construction of the current building, including a system of culverts running below the floor and a series of relieving arches in the River Terrace. They also provided details of its original uses, notably relating to the form of the Royal Bargehouse.

The construction of the South Wing

No construction cuts for the walls of the South Wing were identified, confirming that they had been built from a substantially lower level. The deposits beneath the existing floors were typically thick homogeneous layers consistent with a phase of large-scale backfilling during the erection of Somerset House. The presence of fragmented 16th- and 17th-century pottery and building material in the backfill suggests, not surprisingly, that deposits relating to Somerset Palace had been truncated to a significant degree by Chambers' construction. This was also evidenced in the western lightwell where Tudor masonry from the riverside wall had been reused to form part of the foundations for the south wall of the South Wing.

The construction of the River Terrace

The current conversion of the River Terrace involved removing all of the backfill deposited by Chambers following his initial construction of the foundations. The construction cut for the River Terrace was identified at a level of *c.*

0.3m OD, cutting *in situ* foreshore deposits. The construction cut ran parallel to the River Terrace wall and was 0.3m wide. It could not be excavated as it exceeded remediation depth. Because of the paucity of finds, the surviving foreshore deposits into which it was cut cannot be reliably dated. Although 15th- and 16th-century wares were found, the majority of the assemblage from these deposits dates to the late 17th and early 18th century.

The culverts

A complex system of narrow culverts was revealed running at varying levels below the current floors (Fig 8). No construction cuts for these culverts were identified, suggesting that they were contemporary with the original building. They were all built from unfrosted red bricks (220mm x 100mm x 65mm) and were consistently flat bottomed with vertical sides and a vaulted top with an internal diameter of 0.4m. They were routed into two similarly formed but larger trunk culverts over 1.7m wide and 1.6m deep. These trunk culverts lay on a lattice of softwood planks infilled with red unfrosted bricks (220mm x 100mm x 65mm). All the planks were of similar dimensions: 0.34m wide, 0.12m thick and *c.*3m long. The main culverts cut the Tudor riverside wall, extending through the eastern and western lightwells into the River Terrace, and discharged into the main sewerage system beneath the Victoria Embankment.

The relieving arches

Spanning the River Terrace were a series of well-constructed north–south aligned relieving arches. These arches were constructed of unfrosted red bricks (220mm x 100mm x 65mm) on each pier of the Terrace outside the area of the Bargehouse (Fig 8). Each arch was 0.48m thick and constructed in English Bond. They were built into predesigned recesses in each of the piers and were sprung from varying levels. Only ten courses of each arch were keyed into the Terrace wall, the remaining courses simply butting against individual piers. This gave the impression that the River Terrace had been designed as a framework allowing for future changes in form and use.

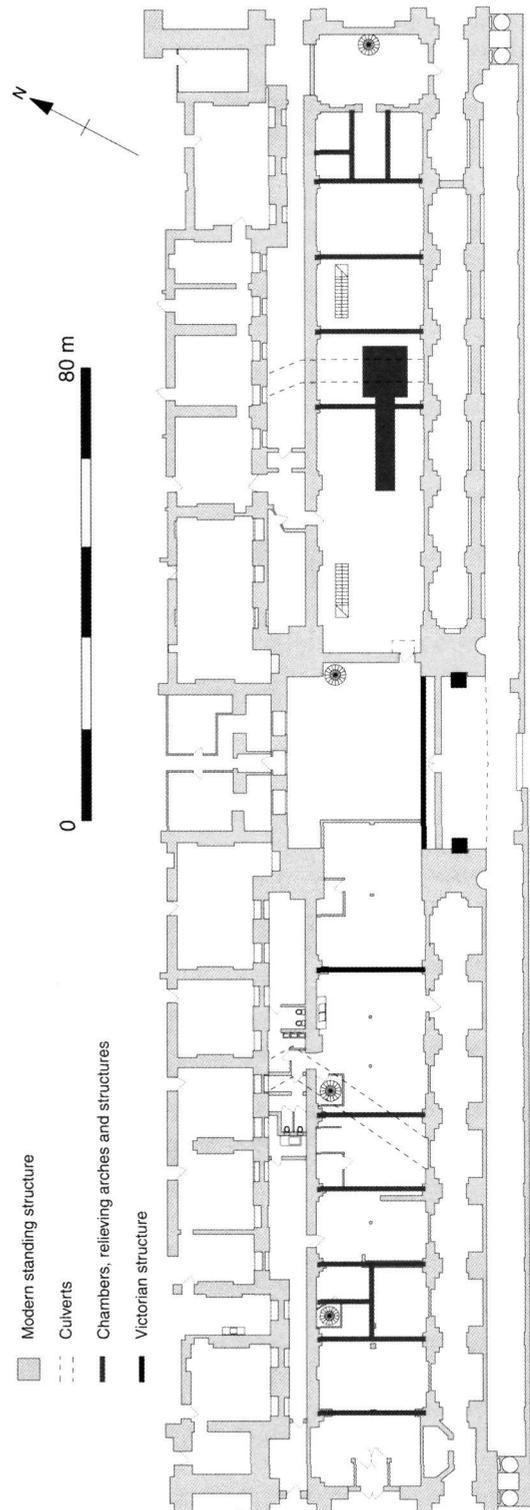


Fig 8. Culverts, relieving arches, and Victorian structures in the River Terrace

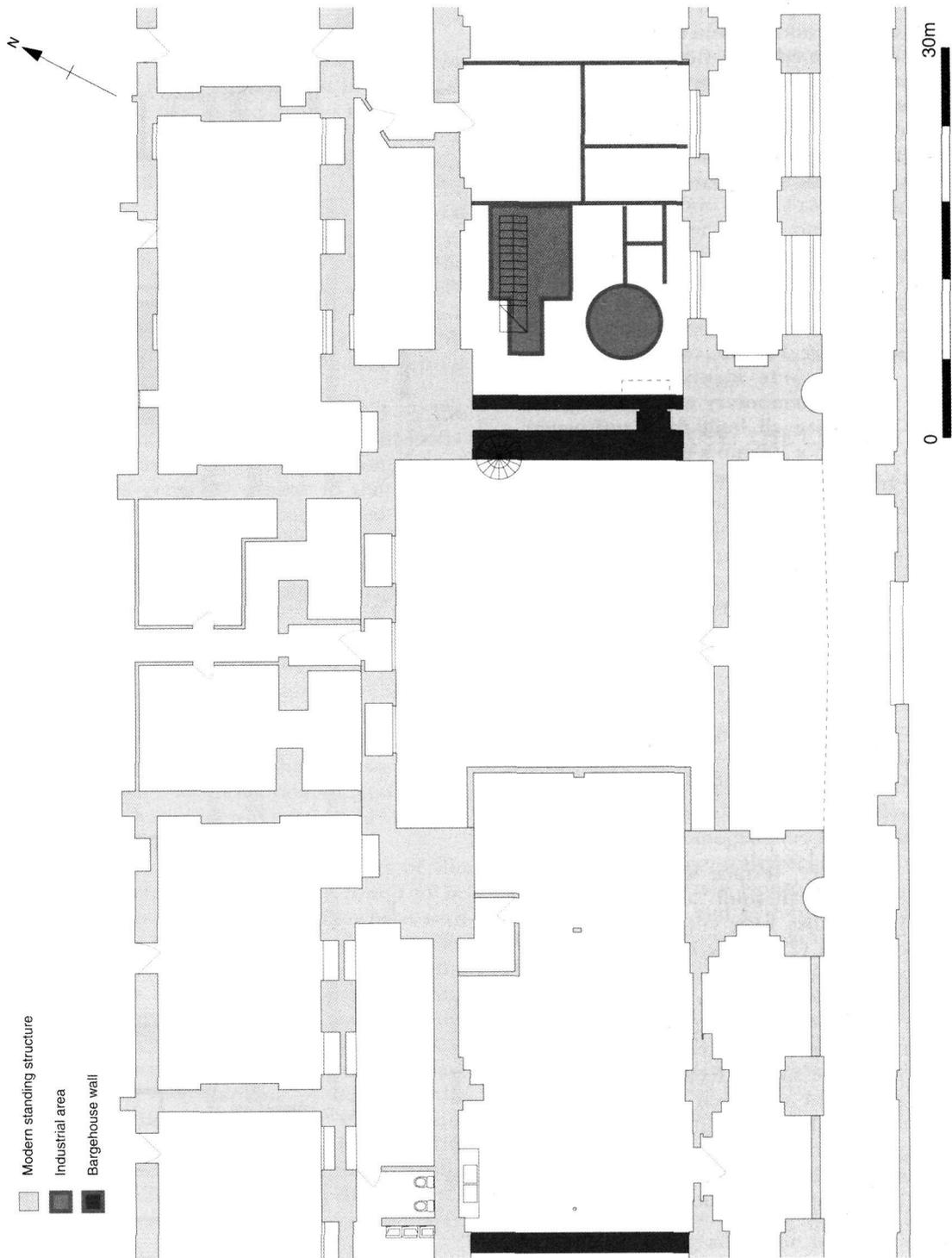


Fig 9. Location of the original Bargehouse walls and the industrial complex

exclusively 18th-century wares, in contrast to the mixed assemblage above which lay against the weathered brickwork. This pattern of wear marks the original location of the sloping slipway which ran from the Bargehouse down to the river.

Excavation below the Great Arch revealed a tiled surface which was interpreted as the original Bargehouse floor. No *in situ* silts dating from the lifespan of the Bargehouse were identified. Victorian deposits, dating from the time of the construction of the Victoria Embankment, lay immediately upon the Bargehouse floor (see below).

The industrial complex (Figs 9 and 11)

A wall on the first pier east of the water gate arch defined the edge of an industrial complex, perhaps related to a pump, which lay adjacent to the Bargehouse and whose presence was

not indicated on any historic plans. This wall, constructed from unfrogged red bricks set with lime mortar in English Bond, spanned the River Terrace and was 0.44m thick. It was stained with a carbon deposit 1.8m from the top. Filling the area between this wall and the original eastern Bargehouse wall was a deposit of compact blue-grey clay which was overlain by the first of two York Stone slab floors. This, in turn, was overlain by a deposit of red-brown clayey-sand which had the appearance of being scorched and was oily to the touch. A layer of tiles had been placed over this sand as a levelling deposit for the second York Stone slab floor. This second floor appeared to have suffered some damage: a small area of it measuring 0.6m by 0.56m was missing, and had been patched with a series of red bricks measuring 240mm by 110mm by 70mm. The bricks were frogged and appeared to have been burnt.

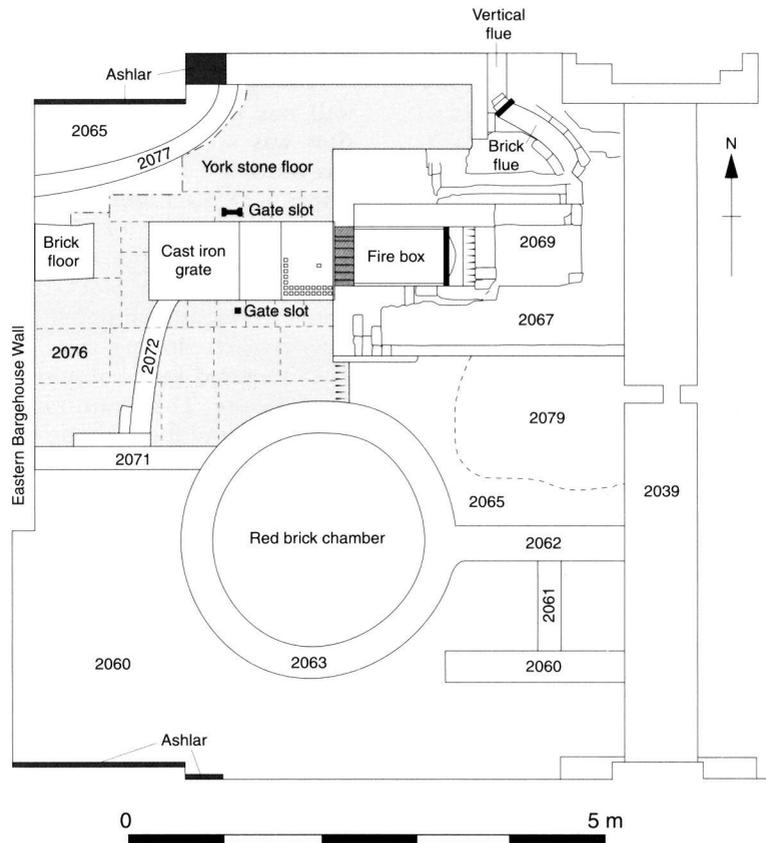


Fig 11. Plan of the industrial area

This slab floor had been constructed butting against two structures (Fig 11). One of these was a circular red-brick chamber with an external diameter of 2.92m and an internal diameter of 2.19m. It was over 4m deep, descending vertically for the first 1.90m then tapering in at an angle of 20° for 0.90m, before descending vertically again. It was rendered on both the interior and exterior faces with a 0.03m thick layer of mortar which showed evidence of burning and patches of heat cracking. A series of iron bands placed vertically against the exterior face were wholly contained within this render, presumably for reinforcement.

The second structure was a red-brick furnace box set within the slab floor 1.0m to the north of the circular structure (Fig 11). It had been constructed from the level of the first York Stone floor, and was 3.06m long and 2.96m wide. Its western half was covered by a cast iron grate split into three sections, the eastern end of which butted against a brick arch 0.62m wide which opened into a fire box. A brick flue led from the northern face of the fire box, curving north-west, into the north wall of the River Terrace. The inside of this flue was covered with a thick carbon deposit, and its base was filled with two deposits of burnt coal and ashy material to a depth of 0.5m. Overlying the burnt deposit was a 0.52m-thick deposit of ash, building materials, and mortar.

A further, large red-brick feature, constructed in two sections, spanned the relieving arch for the third pier east of the Great Arch (Fig 9). The first component of this feature was a rectangular structure, measuring 7.2m by 1.7m, constructed from seven courses of red brick (210mm x 100mm x 70mm) overlying a York Stone slab. The other component, a 3m by 4m rectangular red-brick foundation, lay to the east of the relieving arch. It was constructed primarily in English Bond (nine courses) with two irregular courses. Both features were constructed to the level of the relieving arch. Overlying both of these structures and the relieving arch was a mortar and tile 'sandwich' which formed a hard rendered surface. Within the mortar and tile surface were five recesses measuring 0.48m by 0.24m. They had been formed solely from the tile and mortar render and did not extend into the brick foundations. They may have been intended to hold timber uprights.

Excavation of the most easterly bay within the River Terrace revealed two east-west aligned red-brick walls, both constructed from unfroged

red bricks (210mm x 105mm x 65mm) in English Bond. They may have been floor supports.

THE VICTORIA EMBANKMENT

Excavation within the River Terrace revealed a number of ways in which this building had been affected by the construction of the Victoria Embankment by Bazalgette between 1864 and 1870. It ended the use of the Great Arch as a water gate, the Bargehouse was filled up to the present ground level, and a number of other features were constructed within and around it.

The filling of the Bargehouse

During the construction of the Victoria Embankment, the Bargehouse was filled up to the present ground level. The excavation of the water gate revealed several dumps of Victorian deposits overlying the tiled floor of the Great Arch. Overlying these first Victorian dumps lay numerous deposits, usually consisting of fine lenses of waterborne sands and silts, containing 18th- and 19th-century artefacts. If the infilling of the Bargehouse for the construction of the Victoria Embankment was not the result of a single episode of activity, but took place over an extended period, then these lenses could be the result of periodic flooding of the Thames. Such flooding could explain the redeposition of 18th-century assemblages in securely dated Victorian contexts.

Victorian brick structures

The excavation also identified a series of Victorian yellow stock brick structures within the Bargehouse (Fig 8). A brick built square pillar was constructed against each face of the Great Arch. These pillars extended beneath the initial level of impact of the renovation works. Their insertion had removed any 18th-century silts at the entrance of the Bargehouse. Two relieving arches were also constructed across the face of the Great Arch, and a fifth structure, taking the form of a crudely constructed relieving arch, was identified to the west of the Great Arch. Unlike the 18th-century arches this later addition was not aligned with the north-south piers, nor was it keyed into the main building, suggesting it had been constructed as a temporary measure during the backfilling of the Bargehouse at the time of the construction of the Victoria Embankment.

Two pier bases constructed in brick with Portland Limestone slab foundations were found in the area to the west of the water gate. These structures were of similar dimensions, being 0.69m wide, 0.69m thick, and of 1.56m and 1.73m high. Both structures were identified at *c.*2.10m OD.

THE FINDS

The pottery

Duncan H Brown and Robert Thomson

Introduction and methodology

A total of 190 sherds of pottery, weighing a total of 7,947g, was recovered during the excavations and building survey. The pottery in every context was sorted into ware, sherd, and vessel types, and quantified by weight and sherd count. The approximate date of manufacture of each ware type was recorded with additional comments relating to glaze type, origin, and sherd condition. Specific fabric types have not been identified, the pottery instead being simply divided into ware types or traditions which represent groups of products. This level of recording was considered sufficient for an assemblage which is largely 19th-century in date and essentially too small to reward more detailed analysis.

Chronology and context

For the purposes of this report the pottery has been divided into the following three chronological groups:

Group 1 consists of pottery, mostly dating to the 19th century (but including also some earlier material), which was found in contexts contemporary with and post-dating the original construction of Somerset House. These included contexts associated with the partial demolition of the Tudor river wall, the original backfill of Chambers' foundations, deposits underlying floors (usually replacement rather than original floors) throughout the building, and the fill of the River Terrace associated with the construction of the Victoria Embankment.

Group 2 consists of pottery, mostly of 17th-century date (but including also some earlier

and later sherds), from foreshore deposits which built up against, and thus post-date, the construction of the Tudor river wall, but which predate the construction of Somerset House.

Group 3 consists of pottery of 16th- and 17th-century date which comes from contexts associated with the Tudor garden and which thus also post-dates the construction of the Tudor river wall. A single sherd of Surrey White Ware, dating from the 15th century, from a layer of alluvial silt which appeared to be cut by the Tudor river wall, was the only pottery found in a context earlier than the river wall.

The character of the assemblage

Group 1

Group 1 contexts produced 85% (by weight) of the entire assemblage of pottery, and 95% of that is 19th- or 20th-century in date, the rest being composed partly of residual pottery and partly of pottery from genuinely earlier contexts (Table 1).

The only sherd from the deposits below floors which is not 19th-century or later in date was a single sherd of Raeren stoneware, dating from the 15th or 16th century, which is likely to be residual. Several fragments from these contexts have been burnt at very high temperatures and appear similar to pottery from Southampton and Coventry which was burnt in the Blitz of 1940.

The pottery from the layers filling the River Terrace is mostly of 18th- and 19th-century date. The presence of earlier types of pottery, such as post-medieval redware, post-medieval French ware, and Chinese porcelain indicates the kind of mixing which is to be expected from backfill.

The sherds from the layers overlying the Tudor wall, probably deriving from its partial demolition and the backfilling of Chambers' foundations, date from the 17th and 18th centuries, although one sherd with mortar adhering to it is earlier in date, perhaps 16th-century, and may be residual, originally having been associated with the Tudor river wall.

Overall the pottery in these contexts is typical of the types of pottery in use in London in the periods represented. The most common type is refined earthenware from the Staffordshire factories. This material is badly fragmented and no patent marks are present. The range of vessels — bowls, cups, chamber pots, dishes, plates, and turrens — is typical of a domestic assemblage.

English stoneware, including Doulton and other types, occurs in large fragments from storage jars, bottles, and a water filter. There are two almost complete blacking or ink bottles. Among the earthenwares are fragments of flower pots, again suggesting a domestic origin.

Group 2

All of the pottery from the foreshore deposits lying against the Tudor wall, amounting to 12% by weight of the whole assemblage, dates from the 18th century or earlier (Table 1). This pottery, too, is largely domestic in character, although the small quantities involved do not permit any very specific interpretation. Alongside the more numerous English wares are types from France, the Rhineland, the Iberian peninsula, and China. All of these are typical imports of the period and are common finds in London. The Chinese porcelain is the only indication of the social standing or wealth one might expect to be associated with the site.

Group 3

The material forming Group 3 consists mainly of English wares as well as Low Countries redware and Frechen stoneware, and dates mostly from the 16th and 17th centuries (Table 1). These latter two types are typical imports of the period.

The quantity of pottery from these contexts is too small to allow any further interpretation.

The clay tobacco pipes

D A Higgins

Introduction

A total of 48 fragments of clay tobacco pipe, comprising 6 bowl and 42 stem fragments, was recovered from both the foreshore deposits predating the 18th-century construction of Somerset House and from later 18th- and 19th-century deposits within the building.

All the pipes have been individually examined and catalogued using the draft recording system developed at the University of Liverpool (Higgins & Davey 1994), a copy of which has been deposited as a part of the site archive. The bowl forms referred to are taken from the London typology published by Atkinson and Oswald (1969). The pipes from the two groups of deposits are discussed separately below.

The foreshore deposits

The largest and most interesting group of pipes, consisting of 3 bowl and 20 stem fragments, was

Table 1. Quantification of pottery by date and period group (figures in parenthesis are percentages of overall totals)

	Pottery date	Weight (g)	Weight as %Phase	Sherd count	Sherd count as % Phase
Group 1	15C	22	<1	1	1
	16C	14	<1	1	1
	17C	118	2	10	7
	18C	217	3	20	14
	19C	3410	51	106	72
	20C	2962	44	9	6
Total		6743	(85)	147	(77)
Group 2	16C	67	7	4	11
	17C	377	38	9	26
	18C	554	55	22	63
Total		998	(12)	35	(18)
Group 3	15C	3	1	1	12.5
	16C	134	65	5	62.5
	17C	51	25	1	12.5
	18C	18	9	1	12.5
Total		206	(3)	8	(4)
Overall Total		7947		190	

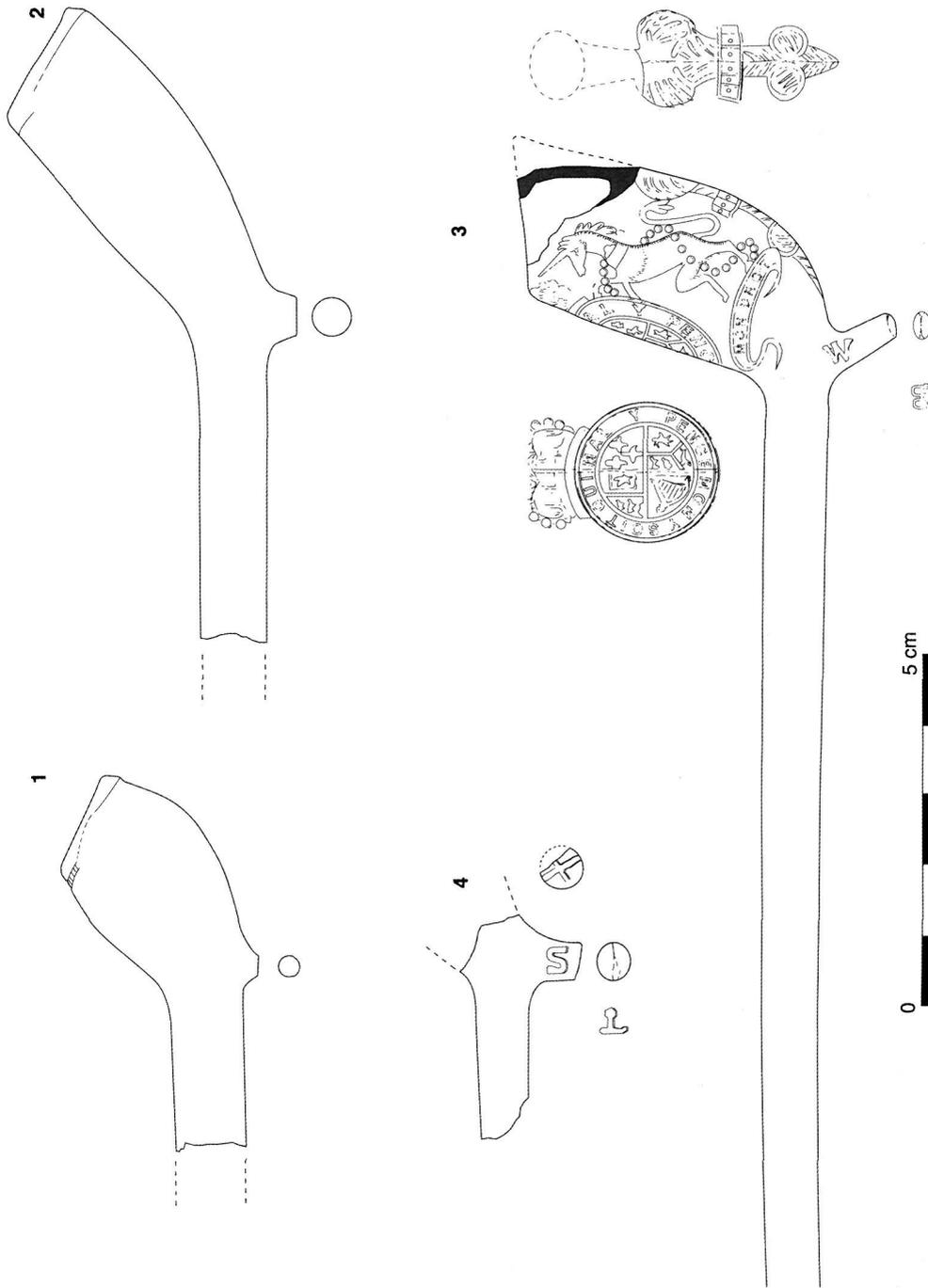


Fig 12. Clay pipes (Drawn by P Lorimer and S Cheshire, after Higgins)

recovered from the foreshore deposits lying against the Tudor river wall and predating Somerset House. The earliest element of this group comprises 1 bowl and 11 stems which can be dated to the late 16th or 17th century.

The only bowl recovered from this early group is a London type 9 variant, which dates from c.1640–60 (Fig 12.1). This is rather a poor quality product with a lop-sided form and only one quarter of its rim milled. In contrast, four of the eleven stems, over one third, are burnished. Two of these pieces, one of which is of a type that could be as early as the late 16th century in date, are finely burnished while the other two have a good burnish. Burnished pipes were more expensive and a higher quality product than unburnished pipes. In London burnished pipes normally represent only a small percentage of those recovered, and so this marked concentration is particularly unusual. Although the sample size is too small to draw any firm conclusions, it may be that this early group represents the consumption and disposal of high quality goods at Somerset Palace.

The remaining pieces from the foreshore deposits worthy of note are a typical plain London form of c.1690–1710 (London type 20 variant; Fig 12.2), and an armorial bowl with three joining stem fragments. This piece stands out from the rest of the group as being both the latest and most complete pipe present.

The armorial bowl is a London type 26 spur pipe, one of the less common London forms (Fig 12.3). It is mould decorated in relief with the Hanoverian Arms facing the smoker and with the Prince of Wales feathers on the seam facing away from the smoker. The precise detail of this pipe cannot be matched with any published example, nor do the maker's initials, 'BW', appear to have been previously recorded on an armorial pipe. There is no known London maker with these initials (Oswald 1975); thus this pipe appears to represent both a new mould type and a previously unrecorded maker, although quite a number of London armorial pipes with the initials 'WB' are known and this example may have come from the same workshop with the initials having been reversed in error.

The other interesting point about this example is the amount of stem that survives. The joining fragments give a total of 210mm of surviving stem, which is still 6.5mm in diameter at its broken end. The only other substantially complete comparable example comes from Paul's Wharf

where a pipe with 280mm of surviving stem has been recorded (Le Cheminant 1981, fig 3.7). Neither of these pipes appears to be broken very near the mouthpiece and so it seems likely that they would both have been considerably longer originally. The more common types of complete contemporary pipe had stems in the 270mm to 380mm range (Higgins 1987, 64). The projected length of the armorial pipes would at least have equalled the longest of these. The length of the armorial pipes is significant since the longer the stem of a pipe, the more it cost to produce. When combined with the cost of producing the elaborate moulds it seems likely that these would have been expensive items.

The Somerset House stem is also interesting because it is very slightly curved. Until towards the end of the 18th century all English pipes had straight stems (Fig 12.3 inset). The reasons for and precise date of the change to curved stems are not known, but the origins of the practice may be evident in this example: perhaps curved stems were initially introduced on the long stemmed and elaborately decorated armorial pipes, the fashion later moving down to the cheaper varieties.

Although it is safe to say that armorial pipes were not very common, and that they represent a distinctive and probably expensive form of pipe, very little is known about how they were perceived in contemporary society. Examples have been recovered from a wide range of sites, including a number of royal sites such as the Tower of London and Hampton Court Palace, and colonial sites such as Williamsburg, Virginia.

In terms of dating, the majority of armorial pipes show the Hanoverian Arms that were adopted in 1714 (Noël Hume 1970, 142) and, from the 1740s (Atkinson & Oswald 1980, 363), became one of the first designs to be regularly moulded on pipe bowls in London. In 1980 only nine dated deposits from which armorial pipes had been recovered could be listed (*ibid*, 364). The general form of the Somerset House example dates from c.1740–80, although the thin stem and bowl walls suggest it probably dates from towards the end of this period. This is significant given that the context in which it was found was sealed by the construction of Somerset House in 1775, thus providing a *terminus ante quem* for the pipe. In addition, the pipe appears to have been freshly deposited, since it was found with three joining stem

fragments. For these reasons it seems likely that this example can be closely dated to around 1775 which, in turn, provides an important fixed point in the typology and evolution of this interesting class of pipe.

The Somerset House deposits

The most significant fragments from the deposits associated with Somerset House itself are from two bowls, both of which can be dated to the late 18th or 19th century. One appears to be part of a London type 28 dating from *c.*1820–60, and the other is part of a London type 27 bowl of *c.*1780–1820 with the maker's initials 'TS' moulded on the sides of the heel, and an internal bowl cross, which is shown as a plan detail in the drawing (Fig 12.4). Internal bowl crosses are relief marks formed by the metal stopper that was used to create the bowl cavity during the manufacturing process. They occur occasionally on 18th- and 19th-century pipes, but their purpose is not clear. The only documented London maker with the initials 'TS' recorded during the relevant period is Thomas Scourfield of Whitechapel, who worked from 1805 to 1839 (Oswald 1975, 146). The London list is not, however, particularly reliable and so this attribution and dating has to be viewed accordingly. If the dates attributed to both of these pipes are correct, then the context from which they came, the make-up for the floor of one of the rooms in the South Wing, would seem to date from around 1820 when both of these forms might have been in use, post-dating the main construction of the house. Several other pieces of thin, round stem which are likely to post-date the initial construction of the building were also found, though in general it is perhaps surprising how many residual pieces were recovered from deposits connected with the building.

Conclusions

Although this is only a small assemblage the pipe evidence suggests that high status rubbish from the palace was being discarded directly into the river during the 17th century. The later pipes are generally undistinguished, although an interesting and closely datable armorial pipe has been recovered. This is a previously unrecorded type and provides important information about the form and evolution of this particular style. The later groups reflect the construction and

subsequent refurbishment of Somerset House, with some residual material being present.

The hair curler

D A Higgins

A single fragment of a ceramic hair curler, used to curl the hair on wigs, was found below one of the floors in the South Wing. The curler has been broken in half and the whole of the end, which might have had a maker's mark, has also been chipped away. Sufficient survives, however, to show that this was part of a smooth, symmetrical 'dumb-bell' curler of 18th-century type.

Although wigs are known to have been worn during the late 16th and early 17th centuries, it was not until the Restoration that they became fashionable in this country. From around 1660 until the end of the 18th century they remained very popular, and almost all of the hair curlers found date from this period. 17th-century curlers tend to have rather wide, flat ends and, sometimes, a central perforation (Le Cheminant 1982, figs 1–7). After 1700 a much more uniform dumb-bell shape with rounded ends and no perforation appeared (*ibid.*, figs 8–18). The clay pipes found in the same context as the curler include diagnostic pieces ranging from *c.*1780 to 1860 in date, and are mostly likely to have been deposited around 1820 (see above, 'The clay tobacco pipes').

Building materials

Kate Atherton

A total of 94 pieces (*c.*211kg) of building material was recovered, comprising brick, roof tile, curved roof ridge tiles, a possible roof finial, drain fragments, plaster or mortar, and a modern glazed wall tile. These range in date from the early post-medieval or Tudor period through to the 19th or 20th century; much of the material could be Tudor. A database of all of the building materials, containing full catalogue details as well as an analysis of their fabrics, has been deposited with the site archive.

Little can be concluded about the individual components of this small assemblage. The most notable aspect is the absence of floor tiles, the predominance of roof tiles, and the small amount of brick. The pieces are generally small and worn and some fragments show burning

on fractures. These factors suggest that the assemblage probably derives in large part from demolition prior to the construction of Somerset House in 1775.

The metal artefacts

Ian Scott

Introduction and methodology

A small assemblage comprising 36 iron and 5 non-ferrous objects was found during the excavations, mostly in contexts related to the industrial complex but also from other contexts such as those below the floors, and making up the foundations of Somerset House. The finds were quantified and recorded with context and other references, measurements as appropriate, and written descriptions. Objects were identified to broad functional categories using the system being developed by the OAU for finds assessment and analysis.

The artefacts

A large part of the assemblage of metal artefacts, comprising 13 of the iron objects, including many of the larger pieces, was found in the industrial complex, in the circular brick structure and its fills, the brick flue, and a deposit containing residues from the complex. They include a complete fire shovel, fragments of a second shovel and a fire rake, as well as a cast iron slotted fitting probably for a gate or similar object. These objects were found together with an L-shaped holdfast, a large nail or pin, and a bolt. In addition, there was a length of wire hawser, two lengths of pipe, and some rectangular-sectioned strips.

The remaining 23 iron objects comprise 19 nails, a threaded bolt, a spike with a threaded lug — all found below the floors of Somerset House — and a length of rectangular-sectioned bar found in deposits below the Great Arch. Most interesting is a mooring ring found in demolition rubble overlying the Tudor river wall.

The non-ferrous objects comprise a piece of badly corroded aluminium edging of recent date, three fragments of sheet of irregular outline in an unidentified non-ferrous metal, and a rectangular-sectioned strip of copper alloy with at least two nail holes, all found in deposits below the Great Arch.

Discussion

The complete fire or stoking shovel is large and was clearly for use with a large furnace or fire. The incomplete shovel probably had a handle of similar length, although its blade is smaller and appears to narrow towards the mouth. The rake lacks much of its handle but presumably also had a long handle comparable in length to that of the complete shovel. The other interesting object is the cast iron slotted fitting. The fact that there are no fixing holes in the surviving portion of this rectangular plate suggests that it formed the base plate of a larger object and that it was built into a structure, probably of brick. It seems most likely that it was a shutter for a fire box. There were probably originally two slotted arms rising from the base plate; the slots would have been facing and could have held a sliding plate to act as a shutter.

The glass

Cecily Cropper

An assemblage of 97 fragments of glass was found during the excavations. Almost all of this consisted of 19th- and 20th-century window and bottle glass. The earliest fragments of window glass, however, probably dating from the 17th century, were found in secondary deposits that may originally have been associated with Somerset Palace. This glass could represent the last (plain) glazing associated with the palace.

The worked stone

Julian Munby

Five pieces of worked stone, including two large slabs of white marble with smoothed upper faces, were retained from the building survey and excavation. Two pieces of moulded architectural stonework were also recovered during the excavation. One of these, of fine white limestone, was a cornice fragment with a cyma moulding which probably dates from the 17th/18th century. The second, of fine creamy white limestone, formed part of the base of a fluted column which is attributed to the 16th/17th century. It seems likely that both of these pieces derive from Somerset Palace though it is, of course, difficult to say from which part of that building.

The animal bone

Beth Charles

Introduction and methodology

A total of 48 fragments of bone were retrieved from the site, 13 fragments of which were from foreshore deposits predating Somerset House; the remainder were retrieved from beneath floor surfaces within Somerset House dating from the 18th century and later.

Almost all of the bone was very well preserved, as the preservation of smaller elements such as rabbit bones demonstrates. All of the bone from the contexts predating the 18th century and almost 70% of the bone from the later deposits was identified. Butchery marks, such as knife scratches and chop marks, could be clearly seen on many of the bones from both periods.

All fragments of bone were recorded including elements from the vertebral centrum, ribs, long bone shafts, and teeth. An attempt was made to separate sheep and goat bones but since no goat was positively identified all caprine bones are listed as sheep. Due to the absence of complete mandibles, age could be estimated only by examination of the rate of epiphyseal fusion (using a combination of Silver's (1969) and O'Connor's (1982) tables). Even then sheep bones dating from the 18th century onwards were the only elements surviving in sufficient quantities for estimates of age to be made.

Species representation

Sheep and cattle dominate the bone from both sets of deposits. Very little more can be said regarding the bone from the pre-18th-century deposits since only 13 fragments were found. A cattle metatarsal was of particular interest as it had been worked. It had been cut mid-shaft, the distal half only remaining. There was scoring along and across the bone and a circular hole down the centre of the shaft. The skeletal elements from the cattle and sheep indicated butchery waste, the majority being vertebrae, ribs, and feet bones. In addition, there were three fragments of cattle horncores.

The bone from the 18th- and post-18th-century deposits probably appears more varied than the earlier bone because of the larger quantity recovered. The majority of the bones from cattle and sheep appear to be butchery waste such as feet bones and ribs. There were also a few

elements from dog, cat, and rabbit which are animals commonly found on sites dating from the post-medieval period. Three domestic fowl ulnas were also found in the later deposits.

Diagnostic elements from the sheep indicated that the majority were slaughtered after the age of two years. This relatively old age may reflect the greater importance of secondary products such as wool in the post-medieval period.

Discussion

The bones from both sets of deposits appear to be butchery waste. The assemblages give some indication of the variation in the diet of the site's inhabitants and neighbours but, given the small number of bones retrieved from both periods, it is difficult to assess how representative the surviving sample is.

THE ENVIRONMENTAL EVIDENCE

The macroscopic plant and mollusc remains

Mark Robinson

Introduction and methodology

Macroscopic plant and mollusc remains were analysed from samples of 100g taken from deposits predating the Tudor river wall which had been cut by its pile foundations (Samples 70–71) and from later deposits which had accumulated around its pile foundations (Samples 67–69). (Pollen from the same contexts was also analysed, see below.) The samples were sieved to 0.2mm and scanned under a binocular microscope at up to x20 magnification. The waterlogged seeds have been listed in Table 2 and the freshwater molluscs in Table 3. In addition, shell fragments of *Mytilus* or *Modiolus* sp. (marine mussel) were recorded from Samples 67, 69, 70, 71 and *Ostrea edulis* (marine oyster) was noted from Sample 67.

Interpretation

Shells of freshwater molluscs are well-preserved throughout the sequence of samples and are particularly abundant in the samples from the layer cut by the piles (Samples 71–70). They comprise a fauna of clean, flowing, fresh water. Most of the species, for example *Bithynia tentaculata* and *Pisidium amnicum*, do not tolerate stagnant or poorly oxygenated conditions.

One species of particular interest is *Gyraulus acronicus*, which in Britain is restricted to the Thames drainage system and no longer occurs as far downstream as London (Kerney 1976, 44). Whereas the freshwater mollusc shells were from species living in the Thames, the marine shells represent waste from food preparation which had been dumped in the Thames.

With the exception of a single seed from the emergent water plant *Apium nodiflorum* (fool's parsley), the waterlogged seeds are also all from species which were not living in the river. The occurrence of cereal bran and broken seed fragments of *Agrostemma githago* (corn cockle), a weed whose seeds were formerly common contaminants of flour, suggests one source was human sewage. The pips of *Fragaria vesca* (strawberry) and *Ficus carica* (fig) are also likely to have been derived from sewage. Various of the other seeds were probably from domestic or industrial refuse including *Humulus lupulus* (hop),

possibly from brewing, *Cannabis sativa* (hemp), possibly from fibre processing or medicinal usage, and shell fragments from the edible nut *Juglans regia* (walnut). *Papaver somniferum* (opium poppy) and *Reseda luteola* (dyer's rocket, the source of a yellow dye) were both cultivated for economic purposes, although both readily grow on waste ground, so the origin of their seeds is uncertain. A *Calendula officinalis* (marigold) seed from Sample 69 is likely to have been from a garden plant grown either for ornamental or medicinal purposes. Otherwise the seeds were from weeds, such as *Chenopodium rubrum* gp (red goosefoot) and *Rumex* sp (dock), likely to have been growing on waste ground, or in some instances mud, along the river bank.

Taken together, this evidence suggests that the deposits are riverine silts which accumulated beneath fresh water which was kept reasonably well oxygenated by the flow of the river, despite an input of organic refuse including sewage.

Table 2. Waterlogged seeds

	Context	5319		5318		
		Sample Depth (cm)	71 50	70 40	69 30	68 20
<i>Ranunculus cf repens</i>	creeping buttercup	-	+	-	-	+
<i>Papaver somniferum</i>	opium poppy	-	-	+	-	-
<i>Fumaria</i> sp	fumitory	+	-	-	-	-
<i>Reseda luteola</i>	dyer's rocket	-	+	-	-	-
<i>Agrostemma githago</i>	corn cockle	-	+	+	-	+
<i>Stellaria media</i> gp	chickweed	-	-	-	-	+
<i>Spergula arvensis</i>	corn spurrey	-	-	-	-	+
<i>Chenopodium album</i>	fat hen	-	-	-	-	+
<i>C. rubrum</i> gp	red goosefoot	-	+	-	-	-
<i>Atriplex</i> sp	orache	-	-	+	+	-
<i>Fragaria vesca</i>	strawberry	-	-	-	-	+
<i>Apium nodiflorum</i>	fool's watercress	-	+	-	-	-
<i>Polygonum aviculare</i> agg	knotgrass	+	-	-	-	-
<i>Rumex acetosella</i> agg	sheep's sorrel	-	-	-	-	+
<i>Rumex</i> sp (not <i>acetosella</i>)	dock	+	+	-	-	-
<i>Urtica dioica</i>	stinging nettle	+	-	-	-	-
<i>Ficus carica</i>	fig	-	-	+	+	+
<i>Humulus lupulus</i>	hop	-	-	+	-	-
<i>Cannabis sativa</i>	hemp	-	+	-	-	-
<i>Juglans regia</i>	walnut	-	-	-	-	+
<i>Sambucus nigra</i>	elder	-	-	+	-	-
<i>Calendula officinalis</i>	marigold	-	-	+	-	-
<i>Anthemis cotula</i>	stinking mayweed	-	-	-	+	-
Cereal bran		-	-	+	-	-

+ present

Table 3. Mollusca

Context	5319		5318			
	Sample Depth (cm)	71 50	70 40	69 30	68 20	67 10
<i>Theodoxus fluviatilis</i>		+	+	+	+	-
<i>Valvata piscinalis</i>		++	++	++	+	+
<i>Bithynia tentaculata</i>		++	++	+	+	+
<i>B. leachii</i>		-	-	+	-	-
<i>Bithynia</i> sp		++	++	+	-	-
<i>Lymnaea truncatula</i>		+	-	-	-	-
<i>L. peregra</i>		+	+	+	+	-
<i>Gyraulus acronicus</i>		+	+	+	+	+
<i>Unio</i> sp		+	-	-	-	-
<i>Sphaerium</i> sp		-	+	-	-	-
<i>Pisidium amnicum</i>		+	+	+	+	+
<i>Pisidium</i> sp		+	+	+	+	+

+ some

++ many

The only chronological change in the sequence possibly of significance is that pips of *Ficus carica* (fig) are restricted to the upper deposit (Samples 69–67).

The pollen

Robert G Scaife

Introduction and methodology

Five samples taken from Tudor foreshore deposits at Somerset House have been examined for their sub-fossil pollen and spore content. The samples were taken at 10cm intervals from the same two deposits which were analysed for macroscopic plant and mollusc remains, one of which was cut by the foundations of the Tudor river wall and one of which had built up around the pile foundations.

Standard techniques were used for the extraction of the sub-fossil pollen and spores from the 2ml samples (Moore & Webb 1978; Moore *et al* 1991). Micromesh sieving was used to aid removal of the clay fraction from these predominantly minerogenic samples. Absolute pollen frequencies were calculated using added exotic (*Lycopodium*) markers to the known volume of sediment. Pollen was successfully extracted from all of the samples and was identified and counted using an Olympus biological research microscope fitted with Leitz optics. A

pollen sum of 400 grains per level plus wetland types and spores was counted for each sample. Data are calculated as a percentage of total pollen excluding freshwater marsh/aquatic taxa, spores, and miscellaneous microfossils. The latter categories were calculated as a percentage of the principal pollen sum plus those taxa in the other categories. Plant taxonomy follows that of Stace (1991) and for pollen Moore and Webb (1978) modified according to Stace/*Flora Europaea* (Bennett *et al* 1994).

Results

There appears to be no real variation in the pollen/vegetation spectra from the two deposits sampled and they are, therefore, discussed together. There is a homogeneous but diverse range of pollen taxa and consequently no pollen zones have been defined. Overall, herbs are dominant (up to 85%) with relatively small values for trees and shrubs (average 15%). There are also small but consistent values for marsh/aquatic taxa and spores present.

Amongst the woodland types, *Quercus* (oak) (up to 15%) is most important, with sporadic records of *Betula* (birch), *Pinus* (pine), *Ulmus* (elm), *Tilia* (lime), *Fraxinus* (ash), *Carpinus* (hornbeam), *Fagus* (beech), *Juglans* (walnut), *Alnus* (alder), and *Taxus* (yew). Shrubs consist of *Corylus avellana* type (hazel) with occasional ericales. The small percentages of tree types indicate only the

background, regional woodland. *Tilia*, *Fraxinus*, and *Fagus* are usually poorly represented in pollen spectra and whilst these taxa may be representative of local and under-represented growth, it is more likely that their pollen were fluvially transported from some distance. *Juglans* (walnut) may be an exception, being generally regarded as a Roman introduction to western Europe and now frequently recorded on Roman and post-Roman sites in London.

A very diverse range of herbs is represented in the sequence, amongst which Poaceae (grasses) (up to 60%) are clearly dominant. The majority of taxa are weeds of waste and disturbed ground and agriculture, largely represented by sporadic occurrences of taxa including members of the Brassicaceae (*Sinapis* type: charlocks), Fabaceae (clovers and vetches), Plantaginaceae (plantains), Polygonaceae (*Polygonum* spp and *Rumex* spp), and Asteraceae (daisy family, including *Centaurea cyanus* (blue corn flower)). Cereal pollen comprises *Triticum/Hordeum* type (wheat and barley) (5%) and occasional *Secale cereale* (rye). There are also some taxa which suggest halophytic communities and thus the possibility of saline/brackish water and tidal influences. These include *Chenopodium* type (oraches, glasswort and goose-foots), *Armeria* 'A' line (thrift and sea lavender), and possibly large Poaceae (>45µ with thin exine and small pores) from salt marsh grasses. Hystrichospheres are also present.

Such diversity of herbs is typical of medieval and later pollen assemblages from urban areas. Comparable data in London come from Broad Sanctuary, Westminster (Scaife 1982) and Parliament Square, Westminster (Branch 1989). The taphonomy is complex with pollen deriving from a number of sources through natural, airborne, and fluvial transport and from secondary, derived sources. The latter may typically include domestic refuse, floor sweepings and animal bedding, and in particular human and animal ordure. Such an array of sources may give rise to very diverse pollen assemblages (Greig 1981; 1982). Broad Sanctuary, Westminster clearly showed this with similarly high values of herb pollen including cereals and associated segetal weeds, whilst very substantial numbers of intestinal parasites (*Trichuris* and *Ascaris*) attest to the presence of pollen from animal offal and human and animal faecal material dumped into the Tyburn Stream channel at Thorney Island. At Somerset House, such parasites were not prevalent but were present. Since numerous

London streams (Nunn 1983) were essentially open sewers draining into the Thames (Ziegler 1969, 159–60), the bulk of the pollen recovered here probably came from these sources. The exception to the above typical 'urban assemblages' is the small number of halophytes (*Chenopodium* type, *Armeria* type, and some Poaceae) which are indicative of brackish/tidal water. This is in accord with the results of the diatom analysis (see below).

Conclusions

A diverse range of pollen types has been recovered from these alluvial foreshore sediments. Tree pollen percentages are small but show a moderate diversity of types including walnut. Herbs are dominated by grasses but with a diverse range of weeds of arable, waste, and disturbed ground plus types which are not referable to specific plant communities. Some taxa, including cereals and contaminants of bread such as blue cornflower (*Centaurea cyanus*), are thought to derive from faecal material and offal disposed of in the stream tributaries of the Thames. Salt marsh plants are also in evidence suggesting tidal/brackish water influences.

Diatoms

S J Dobinson and N G Cameron

Introduction and methodology

Diatoms, which may reveal the level of salinity of the surrounding water and degree of tidal influence, were analysed from five samples taken from the same contexts as were analysed for other environmental evidence: sediments cut by the Tudor river wall and those that built up around its pile foundations.

Diatom preparation and analysis followed standard techniques (Battarbee 1986). Identifications were confirmed using the collection of floras lodged at the Environmental Change Research Centre (ECRC), University College, London. The floras most commonly consulted were Hartley (1996) and Hustedt (1957). The principle source of species ecology was Denys (1992). Data were entered into the AMPHORA database at the ECRC, where they, and the slides and suspensions, are available for examination. A full version of the report summarised here has been deposited with the site archive.

Diatom taxa were classified according to Hustedt's (1957) Halobian scheme in which the halobian groups of diatoms have optimal growth in water with salinity equivalent to the following ranges: polyhalobian $> 30 \text{ g l}^{-1}$, mesohalobian $> 0.2\text{--}30 \text{ g l}^{-1}$, oligohalobian halophilous – optimum in slightly brackish water, oligohalobian indifferent – optimum in freshwater but tolerant of slightly brackish water, oligohalobian halophilous – restricted to freshwater and intolerant of brackish and marine waters.

Although the counting sums were low, ranging from 122 to 183, because of the low diatom concentration the composition of the diatom assemblages was stable and it was thought appropriate to represent the diatom counts as percentages.

Results and discussion

The earliest diatom assemblage, from sediments predating the Tudor wall, is dominated (*c.*65% of the sample) by the non-planktonic oligohalobous indifferent species *Amphora pediculus* and *Achnanthes lanceolata*. Brackish water taxa, of which the estuarine diatom *Cyclotella striata* is the most abundant, account for a further 10%.

The assemblages from higher levels, including some post-dating the river wall, are similar in their overall composition with *c.*60% of taxa being oligohalobous indifferent and 20% of the assemblage being mesohalobous.

The uppermost sample, however, shows an overall decline in the proportion of freshwater species and an increase in the percentage of brackish water species. This probably indicates a higher level of estuarine influence.

Moving up the profile there is a gradual increase in brackish water taxa, such as the estuarine planktonic species *Cyclotella striata*, but also *Rhoicosphenia abbreviata* which has an optimum in slightly brackish water. Nevertheless, despite the decline in freshwater taxa such as *Amphora pediculus* and *Achnanthes lanceolata*, diatoms from the oligohalobian indifferent salinity grouping are still the dominant taxa, accounting for *c.*40% of the assemblage at the top of the profile.

The tidal nature of the estuary results in the transport of marine and brackish taxa into freshwater or brackish habitats and *vice versa*. Fossil diatom assemblages from the Thames estuary are, therefore, taphonomically complex. As polyhalobous taxa did not have an abundance greater than 2% in any of these samples, it

is likely that the planktonic marine taxa they contain have been transported from the lower estuary. The dominance of non-planktonic oligohalobous indifferent taxa, however, suggests that much of the assemblage is autochthonous, and that the site of deposition lay in shallow water.

There is no evidence from the fossil diatom assemblage for elevated nutrient (*eg* phosphorous) levels at this site, as has been seen at a number of archaeological waterfront sites in the City (Cameron & Dobinson 1997).

Conclusions

Although freshwater taxa predominate, the number and condition of the planktonic brackish water species *Cyclotella striata* indicates that the river adjacent to Somerset Palace was estuarine. The small percentage of marine diatoms suggests that the tidal head lay further west, although the small decline in oligohalobous indifferent taxa and the increase in mesohalobous taxa towards the top of the profile suggest that the tidal head was moving upstream. The diatoms thus reveal a gradual increase in salinity over time.

DISCUSSION

Duncan Wood, Julian Munby and Chris Hayden

Given its close links to centres of power, it is not surprising that the history of the site of Somerset House reflects some facets of the history of government in England. The aristocratic and royal residence of Somerset Palace, having fallen into ruin, was replaced by Somerset House, which, albeit still incorporating the Royal Bargehouse, was the first purpose-built government office building. Bureaucracy thus replaced aristocracy. The subsequent history of Somerset House reflects the further recession of royal influence. The excavations and building survey in the South Wing and River Terrace have revealed details of how the consequent changes in the roles of this part of the building were reflected in material form: from palace gardens to Naval offices and Royal Bargehouse, through the use of various other government offices, to public art gallery.

Somerset Palace

The features dating from the period in which the site was occupied by Somerset Palace consist

of the river wall and associated bastions, two garden walls, and remains of the paths arranged around the garden. The river wall was constructed at the same time as the original palace and appears to have changed relatively little during its life. The wall itself appears to have been a simple structure, the only elaboration being the roughly central steps leading down to the river, at one stage perhaps associated with a building, and the projecting 'bastions'. In the context of the waterfronts nearby, however, its Portland ashlar facing may have formed an appropriately distinctive foreground for the Renaissance palace that lay behind it.

The two 'bastions' projecting into the river are clearly shown on some plans and drawings in locations which correspond closely to those archaeologically attested (Fig 2), although only one is visible on some earlier plans. The more easterly of the two 'bastions' stands at the end of the wide path running down the western side of the central gardens, and was mirrored by a similar structure on the eastern side. The location of the more westerly of the 'bastions' is less easily explained. It may reflect the existence of some earlier structure. Some kind of feature appears to be obscurely represented at this point on Agas' map of 1551. Engravings from the 18th century appear to show a roof over this bastion, which would thus have formed a small covered space overlooking the river in one corner of the garden.

The stepped ashlar found overlying the bastion provides the only indication of modifications to the river wall recovered during the excavations. Such changes must have been made rather late in the life of the river wall for the bastion is clearly shown in Knyff's engraving of 1720.

The bastions lie on either side of a boundary — marked by the eastern garden wall uncovered during the excavation — which appears to have been maintained throughout the life of the palace, despite the historically attested modifications to the gardens. It divides the main formal gardens in front of the house from a smaller rectangular garden, bordered by trees, in front of the chapel (Fig 2). The western garden wall divides this garden from the road beyond, which leads to a slipway or steps down to the river.

The modifications to the gardens may be reflected by the sequences of crushed tile or chalk and mortar garden surfaces found behind the wall. These would have formed the paths

running along the river wall, a feature which appears to have been maintained throughout the life of the gardens.

Tudor artefacts were recovered from the foreshore at the base of the Tudor wall and from backfill deposits relating to the initial construction of the River Terrace and South Wing of Chambers' Somerset House. They add little to the understanding of the area around the Strand during this period. The pottery is all typical of the types of pottery in use in London and is largely domestic in character, although the quantities of material do not permit a specific interpretation. In contrast, the pipe assemblage suggests that high status rubbish from the Palace was being discarded directly into the river during the 17th century.

Environmental analysis has revealed something of the economy of the site and of the character of its environment. Remains of hemp, dyer's rocket, and hops may be related to economic activity in the area around Somerset Palace; strawberry, fig and walnut, as well as cattle, sheep and rabbit bones, suggest a not unpleasant diet, perhaps reflecting that of the occupants of the palace itself. The remains of marigold give some indication of the character of the gardens. Other evidence suggests that the river itself, although it contained sewage and was open to tidal influence, formed a pleasant foreground, of generally fresh, flowing water.

Somerset House

Although the construction of Somerset House heralded a marked change of function, the new building, like the old palace, was used to express prestige, albeit now national rather than personal. The design of the building had been the subject of debate, but Burke's view, that the building should be 'an object of national splendour' prevailed (cited in Colvin *et al* 1976, 367). One of the most impressive aspects of the new building was the massive rusticated arcaded River Terrace which formed its waterfront. Here the Royal Bargehouse, entered through the Great Arch, still recorded the building's connection, albeit now less direct, with the Crown.

The uncovering of the original structure of the Royal Bargehouse and water gate has perhaps been the outstanding result of the excavation. The two original walls of the Bargehouse (or at least the dock) were located to the east of the water gate, and two bays (not three as indicated on the original plans) to the west. Differential wear of the brickwork also indicates

the existence of a slipway, again occupying only two bays to the west of the Great Arch. The absence of any structural evidence between the western Bargehouse wall and the start of the coach house and stables further west may indicate that a loading station existed at the top of the slipway, whilst in any case external access was possible from the portico. Otherwise, the excavation of the eastern and western ends of the River Terrace exposed 18th-century and later structural features from the bargemaster's quarters, the stables, and other working areas either side of the Great Arch in the locations indicated on Chambers' engineering drawings (Fig 5).

Somerset House, however, was not just an opportunity for display. One of the reasons that its construction posed such a challenge to Chambers was that it had to encompass the many and changing requirements of numerous government departments and other bodies. To the original list of departments to be accommodated the Exchequer was added, the Commissioners of Taxes and the Stamp Office both came to require more room (which in the case of the Stamp Office was provided by sacrificing accommodation intended for the King's Bargemaster), and the Foreign Apposer had to be accommodated at the last minute having previously been overlooked (Colvin *et al* 1976, 371). The excavation revealed several indications not only that changes were made during the construction of the building, but also that the building had been planned with change in mind. The difference between the position of the Bargehouse wall on the original plans and in actuality provides an example of the former; the predesigned recesses in each of the piers, allowing changes in usage of the River Terrace throughout its lifespan and during its construction, an example of the latter.

Numerous indications of later changes in use were also revealed. The latest significant structure revealed was the industrial complex to the east of the Bargehouse. Although only partially preserved, the circular chamber and fire-box may have formed parts of a pump. The exact function of this pump is unclear, but it may have pumped water from an artesian spring or well to the Navy Reservoir in the upper floors of the River Terrace. The existence of a system of pipes could not be established but a flue was found running through the north wall of the Terrace from the fire-box. The industrial

complex may have been placed adjacent to the the Bargehouse simply because of the need for a regular supply of fuel which could be brought in and unloaded directly from the covered dock, or simply because the archway provided the best means of ventilation. The repairs in the York Stone slab surface suggest that the structure had an extended operational life, but unfortunately no documentary record of the structure can be found.

The construction of Somerset House, and the River Terrace in particular, spanning the steeply sloping and often loose river bank, also posed a considerable structural challenge. Accidents did occur. Five piers in the River Terrace failed in 1789, and the floor of the Royal Academy's Exhibition Room at the front of the building partially failed, just as Sir Joshua Reynolds was presenting a medal in the presence of a large audience (Colvin *et al* 1976, 374, 379). Nevertheless, the excavations and building survey have revealed the care with which this difficult structure was constructed.

The series of well-constructed north-south aligned relieving arches spanning the River Terrace are perhaps the most obvious indication of the measures taken to overcome structural problems. Even here, however, only ten courses of each arch were keyed into the Embankment wall, the remaining courses simply butting against individual piers, giving the impression that the River Terrace had been designed as a framework allowing for future changes in form and use.

The building investigation and recording have similarly revealed changes in planning and use of the building, and added some detail to the extensive written and graphic sources. The most interesting aspect, however, has been the careful investigation of the trussed floor in the River Terrace which has now been removed. The structural carpentry of the building should be seen in the same light as the decorative plasterwork and joinery: as determined high-quality solutions to the problems posed by the building and its intended uses. It is ironic that while the one is rightly recognised as being significant and interesting, the other is not considered worthy of retention (Inskip & Jenkins 1997, 61). Current research in London and elsewhere is only just beginning to reveal the full significance of Georgian carpentry and joinery, which has previously been undervalued.

The creation of a riverside building at Somers-

set House was a brilliant notion on the part of the architect, even if it did not become part of the great London river frontage that might have been anticipated, and was then made redundant by the construction of Bazalgette's Embankment, which half buried it. Something of its original interest has been recovered in the course of these investigations, and the re-entry of the Naval Commissioners' barge to the building in 1999 preserves a tangible reminder of that past.

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FRANCIS BEAUMONT'S MONUMENT IN CHARTERHOUSE CHAPEL AND ELIZABETH, BARONESS CRAMOND AS PATRONESS OF MEMORIALS IN EARLY STUART LONDON

Stephen Porter

SUMMARY

The monument to Francis Beaumont in the chapel of the Charterhouse commemorates his period as Master of Thomas Sutton's charity, from 1617 to 1624. It was the only monument to a Master erected in the chapel between 1613, when the charity was established, and 1842, and was sponsored not by the governors but by Beaumont's niece, Elizabeth, Baroness Cramond. She included her name and status in the inscription, and incorporated the heraldry of the Beaumont family and those of her two husbands in the design. In her role as patroness of church monuments, she placed three others in London churches, marking the advancement of her kindred from county gentry to a family with strong connections with the metropolis and the Stuart Court. Francis's memorial in the Charterhouse is the only one of the four to survive. It records for posterity his life and rank and Elizabeth's own social status, as well as her achievement in erecting it in that quasi-monastic establishment.

THE CHARTERHOUSE

The 14th-century Carthusian priory in Clerkenwell was rebuilt as a mansion by Sir Edward North after the Dissolution and subsequently improved by members of the Howard family: Thomas, 4th Duke of Norfolk and Thomas, Earl of Suffolk. The buildings provided a substantial and prestigious home for the charity founded by Thomas Sutton, which was unequalled in scale between the Reformation and the foundation

of Guy's Hospital in the 1720s. Established after Sutton's death in 1611, it consisted of an almshouse for 80 men and a school for 40 foundation scholars. The school was moved away in 1872, but the almshouse remains, the buildings having been restored after a devastating fire begun by a fire-bomb during an air raid in 1941. The chapel, which escaped the fire, consists of the chapter house of the priory, which forms the principal aisle, an aisle added on its north side in 1614 for Sutton's foundation, and a further bay projecting from that side which was built in 1824. It is unlikely that any monuments were placed there when it was the priory's chapter house, or while it served as the chapel of the Tudor house, and the memorials which are now there commemorate the officers and others connected with Sutton's charity.¹

FRANCIS BEAUMONT'S APPOINTMENT AS MASTER

By Sutton's arrangements, the governors of the charity included prominent churchmen and lawyers, many of whom were among the leading figures in church and state, with the Archbishop of Canterbury acting as chairman. The establishment was headed by a Master, appointed by the governors, with the knowledge and approval of the King. But Francis Beaumont, the fourth Master of the Charterhouse, was appointed in 1617 by James I, and not by the governors.² The

monarch had the right of appointment only if the post had been unfilled for two months and the grant to Beaumont was made just a few days after the expiry of that period. The governors had met once since the death of his predecessor, Peter Hooker, but seem to have dealt only with routine administrative matters. It is likely that they did not approve of Beaumont's appointment, for the first three Masters had been clergymen, and this was the governors' preference. There is no record of the appointment in either the minutes of the governors' meetings or the volume of the charity's contracts and appointments, although those documents were consulted, perhaps to see what procedure should be followed, for it was discovered that the seal had not been fixed to the contract appointing Hooker, which was therefore invalid.³

The second son of Nicholas Beaumont of Coleorton, Leicestershire, Francis matriculated at Peterhouse, Cambridge, in 1565, and, unusually for a gentleman's son, took both a BA and an MA. Described as a 'Dramatic Writer', but not to be confused with the dramatist of the same name, he contributed to the preface of the edition of Chaucer's collected works first issued in 1598 by Thomas Speght, who had been his contemporary at Peterhouse.⁴ His literary skill was not matched by his administrative ability, however, and during his Mastership the charity got into financial difficulties which were not overcome until after his death in 1624.

The Beaumonts were county gentry in Leicestershire who developed connections with the Court during the late 16th and early 17th centuries. Sir George Villiers, of Brokesby, married, as his second wife, Mary Beaumont, Nicholas's aunt, and their son, also George, became the favourite of both James I and Charles I, and successively Earl, Marquess, and Duke of Buckingham. His dominant position at Court was such that he wielded enormous influence and patronage, and almost certainly played a role in Francis's appointment. In 1618 Mary was created Countess of Buckingham.⁵

ELIZABETH BEAUMONT

The Beaumont family's second link with the Court was through Francis Beaumont's niece, Elizabeth Beaumont, the daughter of his younger brother Thomas. She married, c.1602, John Ashburnham, who was knighted at the Tower of London in 1604. Despite his revenue from the

Wealden iron industry, Sir John was forced to sell his property at Ashburnham, Sussex, for £8,000 to meet his obligations, but this was not enough to save him from being incarcerated in the Fleet prison for debt. He died there intestate in 1620, 'not leaving to his wife and six children the least subsistence', and the administration of his estate was granted to a creditor.⁶

Their sons, John and William, quickly repaired the family fortune, partly through beneficial marriages. In 1627 William married Jane, daughter of Sir John Boteler and widow of James, Earl of Marlborough, and in 1629 John married Frances Holland, daughter of the heir to a wealthy alderman of Chichester. Jane Boteler was a distant relative of the Duke of Buckingham, and the brothers also used that connection to obtain places at Court. By 1627 John was well enough established for Charles I to refer to him as 'Jack' Ashburnham and in the following year he made him a Gentleman of the Privy Chamber. Appointed Groom of the Bedchamber and Treasurer at War in 1642, he was an influential member of the king's entourage during the Civil War and one of his companions after it. William was appointed Cofferer of the Household in 1642 and served with the royalist forces. Both regained their posts at the Restoration and are commemorated by substantial monuments in St Mary's Church at Ashburnham, which they rebuilt in 1665.⁷

Elizabeth also improved her fortunes by an advantageous second marriage. In 1625 she described herself as being 'left destitute', but in December 1626 she married the eminent lawyer Sir Thomas Richardson, who had been knighted in 1621, had recently been appointed Lord Chief Justice of the Common Pleas, and in 1631 was advanced to Lord Chief Justice of the King's Bench. As a judge he did not take a title, but by his influence she was created Baroness of Cramond in the Scottish peerage, on 28 February 1629.⁸ Sir Thomas provided a further link to the Charterhouse, through his professional connections with Sir Robert Heath and Sir Ranulph Crewe, who were appointed governors during the 1620s.⁹

FRANCIS BEAUMONT'S MONUMENT

Francis Beaumont died on 18 June 1624 and was buried in the vault beneath the founder's tomb in the Charterhouse's chapel. His monument was set up on the east wall of the north aisle,

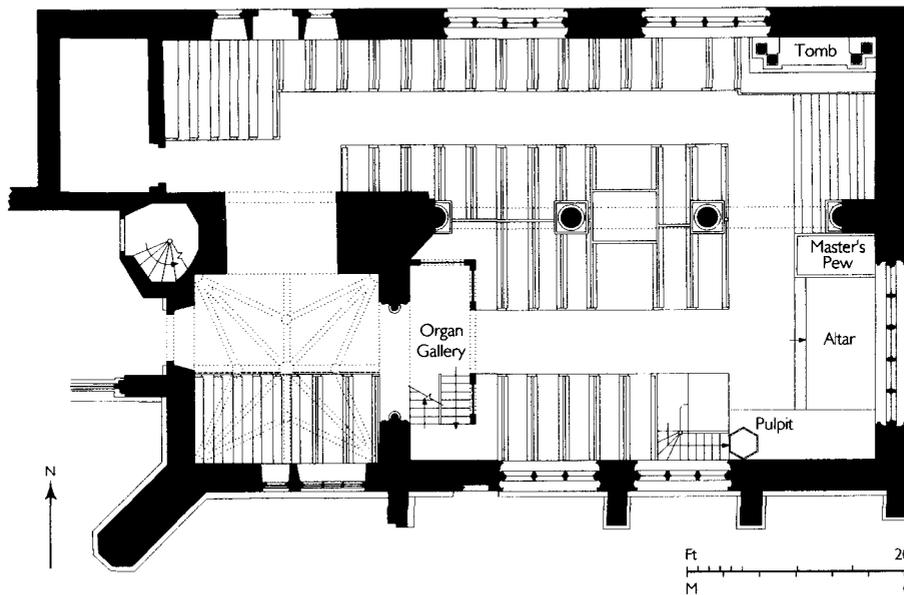


Fig 1. Charterhouse chapel in 1805 (© English Heritage)

but when a window was inserted there in 1842 it was moved to its present position on the short section of wall on its south side (Fig 1). An east wall was an unusual position for a monument, but the north aisle did not have an altar and the space beneath the monument was occupied by the schoolboys' pews. At Salisbury Cathedral the Hertford monument (c.1625) and Gorges monument (c.1635) occupy the sites of medieval altars against the east walls of the south and north choir aisles respectively.

Only two other monuments were erected in the chapel in the 17th century; those of Thomas Sutton, founder of the charity, and John Law, one of his executors, who died in 1614. Both were placed there by the governors' direction during the conversion and extension of the building by Francis Carter, and were made by Nicholas Johnson (or Jansen), Edmund Kinsman and Nicholas Stone, who included the monument to Law in their contract for Sutton's monument.¹⁰

As the inscription on Beaumont's monument records, it was made at the direction of his niece Elizabeth, who acted as his executor.¹¹ It includes her name and title, and her precise relationship to the deceased:

Elizabeth Lady Richardson, Barones of Cramond
in Scotland his nece and executtris daugh': to Sr

Tho': Beaumont of Stauton in ye co: afforesaid
& brother to ye said Francis.

The monument, of painted stone, must have been erected after February 1629, when she was created Baroness Cramond. It has Beaumont's effigy kneeling on a cushion at a prayer desk, flanked by pilasters formed from narrow bookcases (Fig 2).¹² Two of the shelves contain, on the left, an hour-glass and skull, and, on the right, a globe, cube, and dividers; the others carry his books, with finely tooled spines and clasps. On the cornices are figures of an elephant surmounted by a tower (the Beaumont crest), and a lion. The large central achievement has a shield with the Beaumont coat-of-arms and has a lion standing on a helm. The lion rampant between three fleur-de-lis on the coat-of-arms and carried on shields on either side is the Beaumont family arms. On the apron two horses support a heraldic lozenge, also bearing a lion rampant. This is flanked by shields carrying the arms of the Ashburnham family and Sir Thomas Richardson.

Tombs of academics and clergymen scholars at this period commonly represented them preaching or lecturing, in clerical garb, and facing the viewer.¹³ This was not appropriate for Beaumont, who indeed was a scholar but was not ordained, and he wears the cloak and ruff of a gentleman.

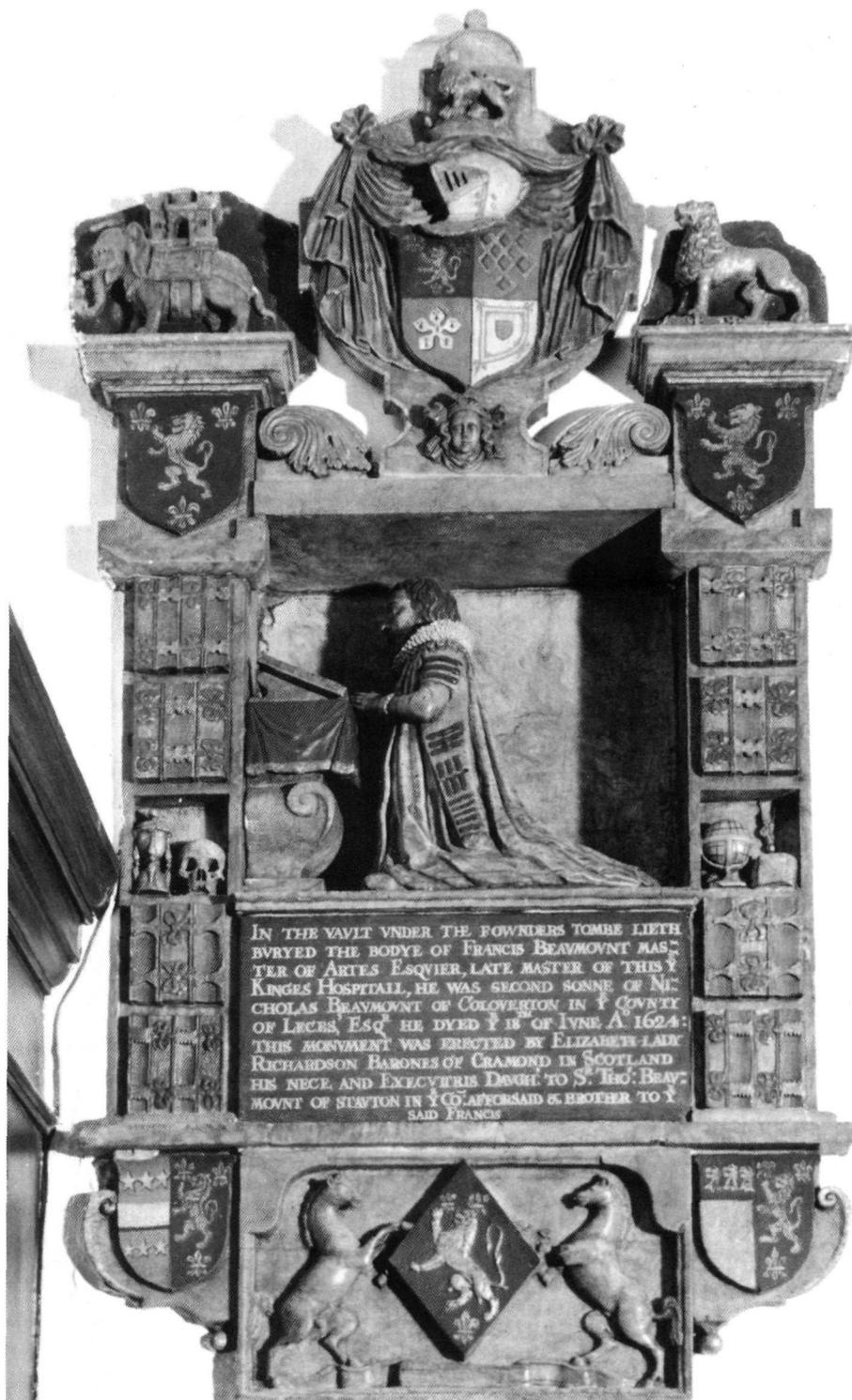


Fig 2. Monument to Francis Beaumont, Charterhouse Chapel (© English Heritage)

His position, kneeling in prayer, conveys his piety, while his scholarly interests are indicated not by his pose but by the books on the shelves flanking his effigy and the inscription tablet. These are by no means unique. Thomas Bodley's monument by Nicholas Stone in Merton College chapel, made in 1615, has pilasters built up of books laid flat on each other, a form that is echoed on George Abbot's tomb in Holy Trinity Church, Guildford, erected in 1640. But the memorial tomb to David Doulben, Bishop of Bangor, who died in 1633, in St John's Church, Hackney, has books arranged in a similar manner to those on Beaumont's monument (Fig 3).¹⁴ Doulben's monument has been attributed to Humphrey Moyer, but it is difficult to extend that attribution to Beaumont's, for the books are the only feature which links them, and Beaumont's has an angularity that is stylistically dissimilar from other monuments by or attributed to Moyer.¹⁵

ELIZABETH BEAUMONT AS PATRONESS OF CHURCH MEMORIALS

Elizabeth Beaumont already had experience as a patroness of memorials in London parish churches commemorating her family, but, as their makers are unknown and the memorials have not survived, they do not provide evidence for the maker of Beaumont's monument. Sir John Ashburnham was buried in St Andrew's, Holborn, in 1620 and in the following year Elizabeth set up a memorial to him there. The inscription was conventional, giving his status, date of death and age, the names of their children and also her name and that of her father, Sir Thomas Beaumont of Stoughton, Leicestershire.¹⁶

Her father died in 1614 and her mother in 1621; both were buried at Stoughton. Nevertheless, in 1622 Elizabeth commissioned 'A very fair Table full of rich Coats of Arms' in their memory, which was hung in the church of St Botolph, Aldersgate. Presumably a painted panel, this was placed in a prominent position, on a pillar of the central aisle opposite the pulpit. The inscriptions were assembled by her brother-in-law Sir Wingfield Bodenham, who was to be High Sheriff of Rutland and was committed to the Tower in July 1643 for being in arms against the Parliament. They paid tribute to her parents, listed her nine siblings and herself, noting that she was the eldest daughter and that she had set up the panel, and showed the eighteen elements of the family arms.¹⁷ The connection

with St Botolph's presumably came through her daughter Mary, who had been buried there in 1621, and the parish adjoins the extra-parochial precinct of the Charterhouse.

There may have been numerous such wooden memorial tablets in English churches, but relatively few have survived.¹⁸ The St John triptych at Lydiard Tregoze, Wiltshire, with its painted figures and long family tree, is far more elaborate than the Beaumont panel. Closer in scale, at least, is the painted wooden epitaph of 1613 to three members of the Maynard family in St Albans Abbey. This has two commemorative poems and an inscription recording the fact that it was erected by Robert Maynard, 'the sorrowfull sonne of his deare and worthie parents'. St Mary's, Monken Hadley, near Barnet, has a large wooden hanging wall monument to Henry Carew, who died in 1626, and his mother, Alice. It imitates a stone monument in form and contains his portrait in a central oval and a painted surround, with genealogical information in the inscription.¹⁹ The interiors of Dutch churches in the 17th century also contained many pillar-mounted wooden memorials. The majority were relatively small diamond-shaped hatchments, but larger plaques carrying substantial texts, set within architectural surrounds, were also displayed.²⁰

Elizabeth Beaumont also had a link with Christ Church, Newgate Street, where her grandparents Nicholas and Anne Beaumont were buried and where, in 1627, she placed a memorial to them. This was probably a ledger slab, as it was described as being in the pavement. The inscription noted that it was provided at her 'care and cost' and described her standing in full: 'Elizabeth Lady Ashburnham, widow, late wife of Sir John Ashburnham, knight, daughter of Sir Thomas Beaumont of Stoughton in the county aforesaid, their third sonne'. It added that she had commissioned the memorial 'at the appointment of her uncle, Francis Beaumont, Esq their second sonne, to whom the erector hereof was executrix'. This comprehensively established her status, her relationship to the deceased and to her late uncle, the Master of the Charterhouse.²¹

In identifying herself so clearly in the inscriptions as the patroness of the monuments she was not simply making known her own piety and role in erecting them, but also demonstrating that she was fulfilling the important function, on behalf of the family, of ensuring the proper recording of the deceased for posterity. The reference to



Fig 3. Monument to David Doublen, St John's Church, Hackney (© English Heritage)

the fact that she had taken the responsibility of acting as Francis's executor can be interpreted in a similar way.²² On the other hand, the inclusion of the arms of her two husbands in the designs of her uncle's memorial stresses her own attainments, in having married two men who were armigerous. Their connections with the Beaumonts were through her, not her uncle, and they had no association with Sutton's charity. It is in this respect that the monument is unusual, as a private monument in the chapel of the best-endowed charity of the period, the governors of which were, throughout the century, reluctant to permit the erection of any monuments at all, let alone one commissioned by a woman that emphasises her own achievements and family genealogy.

Sutton's charity was very much an all-male establishment which did not admit women to the almshouse or girls to the school, and the regulations did not allow the almsmen or officers to be married, or any women, even the scholars' matrons, to live within the precincts. Thomas Heyward, the Registrar, did manage to evade the regulation concerning marriage, but the governors reacted sharply when his daughter's burial in the chapel was considered, in 1628, ordering that 'no woman or woman kinde' should be buried in the chapel or burial ground.²³ In this and in other ways the charity deliberately harked back to the Carthusian priory, with the return to the designation of the buildings as the Charterhouse — it had been known as Howard House during that family's ownership — and the adoption of the term Poor Brothers to describe the almsmen.

There is no mention of the monument in the records of the charity, nor does any source provide an explanation for the delay between Francis's death and its erection. The cost was borne by his niece and so did not appear in the charity's accounts, and if she obtained permission from the governors, as she surely did, this is not mentioned in the minutes of their meetings. She may have had some difficulty in getting their consent, especially as they appear not to have approved of his appointment, although she had a connection with the Charterhouse through her uncle's successor, Sir Robert Dallington, who, like her sons, had been a member of Charles's household until appointed by him to the Mastership. Yet, even if he supported her, there was still a delay of at least five years before Beaumont's memorial was erected.

WOMEN AS PATRONS OF MONUMENTS IN 17TH-CENTURY ENGLAND

Women in early 17th-century England were not precluded from undertaking a programme of monumental patronage, using memorials in churches to record for posterity their affection for deceased relatives and a family's genealogy.²⁴ Baroness Cramond was not unusual in that respect and, if she did encounter difficulties in placing her uncle's monument in Charterhouse chapel, they related to the charity's own practice, rather than a general objection to her taking the role of patron. Most notably among her contemporaries, Lady Anne Clifford (1590–1676) was responsible for a number of monuments commemorating her family, including one to her mother, Margaret Countess of Cumberland, in St Lawrence's Church, Appleby, and her father's tomb in Holy Trinity Church, Skipton. The most spectacular record of her life and family, however, is a painting: a triptych commissioned in 1646 from an unidentified London painter and expressively known as 'The Great Picture', with portraits and coats of arms. It depicts her ancestry and also has portraits of her governess and her tutor, the poet Samuel Daniel. She commissioned a memorial to Daniel in St George's, Beckington, in Somerset, and, from Nicholas Stone, one to her favourite poet, Edmund Spenser, in the south aisle of Westminster Abbey.²⁵ She had a childhood connection with the Charterhouse when her father was the Crown's tenant between 1593 and 1595, and would have known Baroness Cramond through their links with the Court.

Baroness Cramond's embellishment of St Mary's Church at Ashburnham with a gallery, sometime before 1649, was also characteristic of women patrons, again including Lady Anne Clifford. The gallery was incorporated in the new building erected by her sons in 1665, and her donation was recorded on the fly-leaf of the parish register.²⁶

A LADIES LEGACIE AND ELIZABETH BEAUMONT'S ACHIEVEMENT

In another undertaking Elizabeth Beaumont made it clear that she was aware of encroaching on responsibilities usually taken by men. During the plague epidemic in London in 1625 she lodged at the Countess of Buckingham's house at Chelsea and used the time to write a book of spiritual guidance for her four daughters. In the

preface she comments that her intention 'to bring you to eternal life' may be contemptible to many because she was a woman, and so she gave copies only to her daughters and did not include her two sons, 'lest being men, they misconstrue my well-meaning'. She later added two further books and published all three in 1645 as *A Ladies Legacie to her Daughters*.²⁷ On the title page she was, characteristically, given her formal title: 'Madam Elizabeth Richardson, wife to the late Sir Thomas Richardson Knight Lord Chief Justice of the Kings Bench'.

Sir Thomas Richardson entrusted to his executors the task of erecting a 'small monument' that would cost no more than £100, and they, not his widow, were responsible for the wall-monument, incorporating a bust by Hubert le Sueur, set up in Westminster Abbey after his death in 1635.²⁸ Her name is not included in the inscription, although she did receive generous bequests in property, rents, silver plate, and even his coach, with two horses of her own choosing. The Beaumont arms were set in Westminster Abbey nonetheless, impaled with those of the Villiers family on the tomb of Sir George Villiers and the Countess of Buckingham, made by Nicholas Stone, in St Nicholas's chapel.

Baroness Cramond's commemorations of the Beaumonts and her husbands' families were not so prominently placed, and she was not given a separate memorial after her burial alongside her first husband in St Andrew's Holborn in 1651.²⁹ She was, however, commemorated in the inscription on the memorial in Ashburnham church to her son John, who died in 1671, where she is described as 'very eminent for her great Temper and Prudence'. Her efforts demonstrate her determination to record, within the metropolitan context, the new-found status of those families. The Beaumonts, Ashburnhams, and Richardsons all achieved considerable social advancement in the early decades of the century, chiefly through close association with the Stuart monarchy. She also drew attention to her own role in erecting the memorials. The extent of her achievement at the Charterhouse may be judged from the fact that no further monument to a Master was placed in the chapel until that to Philip Fisher, who died in 1842.

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NOTES

¹ The inscriptions are recorded in Francis Collins (ed) *The Registers and Monumental Inscriptions of Charterhouse Chapel* Harleian Soc., Register Section, vol 18 (1892), 81–91.

² *Calendar of State Papers, Domestic, 1611–1618*, 499.

³ Charterhouse Muniments (CM), G/2/1, pp 91–2, 171.

⁴ John Nichols *The History and Antiquities of the County of Leicester, vol III, pt ii* (1804), 734; J & J A Venn *Alumni Cantabrigienses, Part I* (1922), vol I, 118; T W Baldwin 'The three Francis Beaumonts' *Modern Language Notes* 39 (1924), 505–7; Derek Brewer (ed) *Chaucer, The Critical Heritage vol I* (1978) 135, 140.

⁵ *The Complete Peerage* II, 391–2.

⁶ Guildhall Library, MS 9050/5, f 128v. C Thomas-Stanford *Sussex in the Great Civil War 1642–1660* (1910), 189–90.

⁷ Basil Duke Henning *The House of Commons, 1660–1690* (1983) I, 552–4.

⁸ Elizabeth Richardson, Baroness Cramond, *A Ladies Legacie to her Daughters* (1645), 4. *The Complete Peerage* III, 488–90.

⁹ CM, G/2/1, pp 187, 219.

¹⁰ W L Spiers (ed) *The Notebook and Account Book of Nicholas Stone* Walpole Society vol VII (1919), 40–1.

¹¹ London Metropolitan Archives, DL/C/342, f 63v.

¹² An engraving of the figure and prayer desk is in James Peller Malcolm's *Londinium Redivivum II* (1803), 317, where the image is reversed.

¹³ Nigel Llewellyn *Funeral Monuments in Post-Reformation England* (2000), 329.

¹⁴ Information kindly supplied by Simon Watney.

¹⁵ Bridget Cherry & Nikolaus Pevsner *The Buildings of England: London 4 North* (1998), 481.

¹⁶ John Strype *Survey of the Cities of London and Westminster ... by John Stow* (1720), vol I, bk iii, 251.

¹⁷ Strype *op cit* (note 16), vol I, bk iii, 116; John Nichols *The History and Antiquities of the County of Leicester, II, pt ii* (1798), 859; *Commons' Journals vol. III, 1642–44*, 187.

Sir Wingfield Bodenham was described in the royalist ballad *The Royal Feast* as 'firme both to the church and crowne'.

¹⁸ Llewellyn *op cit* (note 13), 204.

¹⁹ I am very grateful to Simon Watney for allowing me to consult his list of wooden memorials.

²⁰ Daniëlle H A C Loken 'The Delft church interior 1650–1750' in Michiel C C Kersten & Daniëlle H A C Loken (ed) *Delft Masters, Vermeer's Contemporaries* (1996), 43–86.

²¹ Nichols *op cit* (note 17), 858; Strype *op cit* (note 16), 116, 136, 251.

²² For the motives of patrons in Lincolnshire for a slightly later period see, John Lord 'Patronage and church monuments 1660–1794: a regional study' *Church Monuments* I pt 2 (1986), 95–105.

²³ Charterhouse School, muniments, 170/1/9. CM, G/2/1, p. 211.

²⁴ Llewellyn *op cit* (note 13), 282.

²⁵ The Great Picture is in the collection at Abbot Hall, Kendal, and was displayed at Tate Britain in 2003. Adam White 'Westminster Abbey in the early seventeenth century: a powerhouse of ideas' *Church Monuments* IV

(1989), 16. Her admiration for Spenser was shared by Francis Beaumont; Baldwin *op cit* (note 4), 505–7.

²⁶ *Victoria County History: Sussex IX* (1937), 129.

²⁷ Richardson *op cit* (note 8), 3, 6. The copy given to her daughter Elizabeth is in the East Sussex Record Office, ASH/3501.

²⁸ The National Archives, Public Record Office, PROB11/167/35.

²⁹ The National Archives, Public Record Office, PROB11/216/63.

A SUMMARY OF PAPERS READ AT THE LAMAS LOCAL HISTORY CONFERENCE HELD AT THE MUSEUM OF LONDON ON 15 NOVEMBER 2003: 'LUNATICK LONDON'

CHARLES AND MARY LAMB AND THEIR LUNATIC ASYLUM

Lionel Lambourne

Today Lamb is remembered (if at all) by *Lamb's Tales from Shakespeare* (much of it written by Mary) and his *Essays of Elia* with its moving story *Dream Children*. Poor Mary is really only remembered for the awful tragedy of the murder of her mother.

The father of the family was John Lamb, who acted as a general factotum for Samuel Salt, a kindly ex-MP who as a Master of the Inner Temple was able to pull strings and get the young Charles into the Blue Coat School — a sure ticket to ordination, until the school authorities vetoed such a career move for Charles, because of his severe stutter. Mary and Charles grew up in an area of London still recognisable today — Lincoln's Inn Fields. The family home was 7 Little Queen Street, which used to run from High Holborn down to Great Queen Street, and is now absorbed into the top end of Kingsway.

The first real intimation of the impending tragedy to survive occurs in a letter dated 5 May 1796 from Lamb to his lifelong friend Samuel Taylor Coleridge, whom he had met as a fellow Bluecoat schoolboy. In it Lamb, aged 21, confessed: 'My life has been somewhat diversified of late. The six weeks that finished last year and began this your very humble servant spent very agreeably in a mad house at Hoxton. I am got somewhat rational now, and don't bite

anyone. But MAD I was — and many a vagary my imagination played with me, enough to make a volume if all told.' In this letter Lamb enclosed a sonnet 'which has small merit as poetry but you will be curious to read it when I tell you it was written in my prison house in one of my lucid intervals'. The poem is dedicated 'to my sister' and reads:

If from my lips some angry accents fell
Peevish complaint, or harsh reproof unkind,
T'was but the error of a sickly mind
And troubled thoughts.
Let this my verse the poor atonement be
To repay the mighty debt of love I owe
Mary, to thee, my sister and my friend.

It is one of the most curious features of the Lambs' personal tragedy that it was he and not Mary who first experienced the rigours of life behind bars in a private asylum, although in his case, of course, he was only suffering from a nervous breakdown, a voluntary patient, and not guilty of a horrifying murder.

The pages of *The Morning Chronicle* on 26 September 1796 give the story of the Lamb tragedy in succinct form.

The Coroner and a respectable jury heard the case of a fatality of a lady in the neighbourhood of Holborn, who died in consequence of a wound from her daughter.

While the family were preparing for dinner, the young lady seized a case knife laying on the table, and in a menacing manner pursued a little

girl, her apprentice, round the room; despite the eager calls of her helpless infirm mother to forbear ... The child by her cries brought up the landlord — but too late — the dreadful scene presented to him the mother lifeless, pierced to the heart, on a chair, her daughter yet wildly standing over her with the fatal knife, and the venerable old man, her father, weeping by her side, himself bleeding at the forehead from a severe blow received from one of the forks she had been madly hurling about the room.

The above unfortunate young person is a Miss Lamb, a mantua-maker [dress-maker], in Little Queen Street, Lincoln's Inn Fields. It seems the young lady has been once before, in her earlier years, deranged, from the harassing fatigues of too much business. As her carriage to her Mother was ever affectionate in the extreme it is believed that to the increased attentiveness, which her parents' infirmities call for by day and night, is to be attributed the present insanity of this ill-fated young woman.

The jury of course brought in their verdict, *Lunacy*.

She has been since removed to Islington mad-house.

It is deeply saddening to picture the horror of the scene which confronted Charles upon his return after a thwarted attempt to get the doctor. For ever afterwards he would describe it as the 'Day of Horrors' and recall how he had removed the knife from Mary's hand. After six weeks she began to recover and wrote, 'I have no bad terrifying dreams ... At midnight when I happen to awake, the nurse sleeping by the side of me, with noise of the poor mad people around me, I have no fear'.

By April 1797, Mary appeared to have made a complete recovery. But the Medical Authorities were understandably nervous about her being released into society unless someone was prepared to take complete responsibility and keep close watch upon her. Otherwise she would be condemned for life to a public asylum.

Lamb, aged 21, was placed in a truly heart-rending dilemma. To understand its full implications one must remember that Lamb had several widely differing roles to play, and more than one mask to wear, as a lynch-pin in the Romantic Movement. Yet some of those roles he must have realised he would never be able to play, for the family's history of mental disorder meant that he could never marry and have children — a realisation which would later grow upon him more and more. Although at the East India Office he enjoyed a steady income in a

steady job, it was a real grind; he would, however, remain there for the next 33 years. This work would, if a little boring, nevertheless just earn him the wherewithal to pay the financial fees at a private establishment for the care of the mentally ill.

Mary's fees were, however, only one factor in the equation. John Lamb, his senile father, his aged Aunt Sarah, and John his elder brother were all troublesome. His brother John abrogated all responsibility for his sister and urged Charles to have Mary put in the Bethlem Hospital, a course which Charles was determined not to follow. Eventually he came to an arrangement with Islington Mad House that Mary should have a room and a nurse for herself for under £60 a year. Over the next three decades a pattern would establish itself, a pattern which entailed no less than eight moves between 1799 and 1823, in order to keep a close eye on Mary not too far from Islington Mad House. Poignantly when she felt her illness overcoming her, Mary would search out her strait-jacket, and go off to the madhouse either with Charles or a nurse. The Lambs moved first to 15 Chapel Street, Pentonville, then to No. 36 after John senior's death, thus enabling Mary to join her brother there. They gradually moved further and further out of London to Enfield, where they went into lodgings with a couple called Westwood, a stingy couple (whose meanness led to him charging Wordsworth extra due to the fact that he took too much sugar with his tea). Lamb and Mary then moved into a small private house for mental patients kept by a Mr and Mrs Walden in the neighbouring town of Edmonton. Cut off from his friends and deeply saddened by the death of his friend Coleridge in July, Lamb died on 22 December 1834.

We would like to believe that the treatment meted out to Mary and other inmates was humane in the private madhouses, but it seems to have varied alarmingly as Sarah Burton's new book reveals. Sexual scandals and ill treatment were all too common as is shown in a report of 1815 which records how patients were left chained to their beds for weeks, forcibly fed, gagged, and mopped down at an outside pump. The Keepers were expert at keeping such criminal behaviour secret by keeping up a benevolent front to visitors and drugging patients when visitors were expected.

Charles was that rare phenomenon, a naturally funny man, a unique mixture of innocence and

sophistication. He was once seized by a group of revellers as 'the veritable guy'; they put him on top of a bonfire from which he fortunately escaped. The charm of his personality, and great gifts of hospitality (shared with his sister Mary), led to his rooms on Thursday evenings becoming a centre of the Romantic Movement in which William Wordsworth, and his friend Samuel Taylor Coleridge, Thomas de Quincy, John Keats, and the painter Benjamin Robert Haydon participated. It was in Haydon's studio that on 28 December 1817 an epic party took place which became known as 'The Immortal Dinner'. A great deal of alcohol was consumed, and a great many ironic toasts were drunk to such subjects as 'Voltaire' or 'Confusion to Mathematics'. Isaac Newton was denounced by Keats for destroying all the poetry of the rainbow by reducing it to a prism. A good deal of fun was made of the pompous figure of a civil servant named John Kingston who had gate crashed the party. Lamb teased Kingston unmercifully by approaching him with a candle, holding it close to his victim's face, and demanding, 'Sir would you allow me to look at your phrenological developments?' Lamb was led away to another room where he could be heard singing, 'Hey diddle diddle dumpling, my son John went to bed with his breeches on. Hey diddle the cat and the fiddle', and 'do let me have another look at the gentleman's organs'. This led to Keats's and Haydon's inextinguishable laughter. Later all parted in good humour and no ill effects followed. Ah well! Like so many memorable parties it was probably very much funnier at the time! This anecdote can be used to justify the charge that Lamb had, or rather enjoyed, what we would describe as 'a drink problem'. Given his problems it would be surprising if he did not — he also made gallant efforts to stop smoking.

Lamb's most famous poem provides us with a useful, although extremely sad, biographical account of what happened next, all too familiar to anyone who has had to attend to a much loved relative's slow decline, and together with his essay *Dream Children* (a lament for the children he could never have) is guaranteed to leave not a dry eye in the house.

Where are they gone, the old familiar faces?
I had a mother, but she died and left me,
Died prematurely in a day of horrors —
All, all are gone, the old familiar faces
I have been laughing, I have been carousing,
Drinking late, sitting late, with my bosom cronies

All, all are gone, the old familiar faces.
I loved a love once, fairest among women
Closed are her doors to me, I must not see her
All, all are gone, the old familiar faces.

His position out of the arena of love and marriage did not stop Lamb from falling in love. Passionately involved in the theatre at Drury Lane and elsewhere, both writing plays and becoming active in the back stage politics in the theatre, he met the vivacious actress Fanny Kelly. In 1819 Lamb wrote offering to marry her, but she turned him down with great tact and they remained friends.

After Charles's death Mary moved back to London in 1841, after Mrs Walden developed a very evil temper. She settled at 41 Alpha Road, St John's Wood with an old nurse, the last of her many moves. She lived there until her death on 20 May 1847, aged 83, outliving her brother by 12 years.

So much for a brother's dilemma on how to care for a much loved but potentially dangerous sister's problems.

Further reading

S Burton *A Double Life. A Biography of Charles and Mary Lamb* (2003)
Lord David Cecil *A Portrait of Charles Lamb* (1983)

'... A SPECIAL BRANCH OF ARCHITECTURE': ARCHITECTS AND THE DESIGN OF LARGE ASYLUMS IN THE VICTORIAN PERIOD

Jeremy Taylor

The massive expansion of pauper lunatic asylum provision following the 1845 Lunacy Act represented an equally massive effort for the design and construction sector, and especially for the architects involved with this special building type.

The *68th Report* of the Commissioners in Lunacy (1914) showed the numbers of patients housed in County and Borough asylums in England and Wales from 1847 to 1914. It emphasised the rate of growth from only 5,486 patients in 21 asylums in 1847 to over 105,000 patients in 97 asylums by 1914. To that then had to be added London's five Metropolitan Asylums Board asylums, making a total of over 112,000

patients in 102 asylum complexes. So this expansion represented 81 new large building complexes housing over 106,000 patients in the publicly-funded sector.

How did the architectural profession acquire specialist knowledge and planning skills to respond to all this? Apart from the example of existing buildings to visit, there were architect-directed items on asylum design such as:

Technical press editorials, *eg* in the *Builder* journal under its editor George Godwin.

Publications aimed at architects, *eg* the Commissioners in Lunacy's own *Suggestions and Instructions*. Important instances of architects addressing their fellow professionals directly on this topic: 1846, Charles Fowler at the IBA; 1880, William Dawes at the Architectural Association; 1901, G T Hine at the RIBA (after 50 years of increasing size in developments).

The architect Charles Fowler, at the very beginning of the period, compared pre-1845 plan forms. In making his analysis, he criticised their operational deficiencies and went on to present his own version of the radiating plan form, aimed at solving some of these plan problems. By 1880, when William Dawes presented a long paper on 'Asylums for the Insane' he noted the shortcomings of such radiating plan forms in the face of the increasing size of institutions and more varied building programmes with a range of identifiable and separable units. Just as Fowler, he advocated a new type of plan — in his case the 'broad arrow' layout, as first used at Gloucester (1881–84), with the ward blocks arranged in echelon. Dawes also stressed to his audience the need for close collaboration in planning between doctors and architects, for 'in the perfection of this important art ... neither the physician alone nor the architect unaided will accomplish anything very greatly in advance of failure'.

By 1901 G T Hine's lengthy presentation was to become a valedictory statement on asylum construction from the 1870s on, comprehensively summing up the period with the main building developments already achieved and the plans for the next few years on the drawing board. Hine (1842–1916) can be seen as the pre-eminent and most prolific specialist asylum architect of this whole period, with a practice dedicated to this building type alone, and a key role as Consulting Architect to the Commissioners in Lunacy. Hine opened his

address to fellow architects by emphasising that 'Asylum construction constitutes a special branch of architecture' and that 'the art of combining so many dissimilar structures into one harmonious whole' (with all their services) resulted in 'practically a little town'. This reflected the change from a unified structure to the complex of buildings that typified the asylum by the end of the 19th century, and was already noticeable by the 1870s. By 1901, most of these earlier asylums had already required very large additions (including some special function blocks *eg* blocks for children).

In his analysis, Hine emphasised the need to consider site features, and to ensure that there were as few changes of level as possible to negotiate in the connecting web of corridors — especially relevant as many asylums were to be located on hilltop or hillside sites. Other aspects of sites and siting are also set out in the various editions of the Commissioners' *Suggestions and Instructions*, *eg* requirements for one acre per 10 patients, siting on a south-facing slope on an upland, well-drained location, and the patients' side to face the private/landscape view. This resulted in the main 'architectural' frontage being to the non-public and secluded south-facing side, with the paradox that the 'working' side of the asylum, and its fragmented imagery, was inevitably presented to the outside world: *ie* the north with its offices, workshops, laundry, stores, and utilitarian service aspects.

Hine commented on various plan layouts and noted the use of different block types reflecting patient classifications/subdivisions and design features related to cutting down distances between the administration and the ward blocks — a 'question of primary importance'. He took the opportunity to be highly critical of the use of ranks of three-storey pavilion blocks in the 1870s, as adopted by London's newly-formed Metropolitan Asylums Board and aimed at accommodating cheaply the long-term chronic in tightly-spaced dormitories.

When Hine moved on to address the 'ideal' for that time — 1901 — it allowed for two new developments to be given emphasis: the Acute Hospital 'the most important building in the whole scheme', and Villa Residences. Both were used in the programme for his new 1,275 bed asylum at Hellingly, East Sussex (completed 1903). This asylum represented an exemplar as perceived by Hine, with the main asylum building for 840 patients and also a detached chapel

in the grounds 'consistent with the patient's preconceived ideas of attending religious worship' — as required by the Commissioners but a subject of debate at the time. Costs were approx £300 per bed, a figure which Hine gives as providing a 'well-built asylum, designed on liberal principles and fitted with all modern appliances'. (By comparison larger urban general hospitals would be more likely to cost in the order of £350 to £500 per bed for new-build in the early 1900s.)

With this analysis of the asylum plan 'as it should be' (and presumably as Hine would hope to encourage it, as Consulting Architect to the Commissioners in Lunacy), Hine had covered the main ground of his presentation centred on 'the primary importance of the plan'. But in saying that he had added: 'It must not be supposed that no consideration for exterior design need be exercised.' For the topic that Hine had left unexplored — what asylum buildings might look like, *ie* the architectural imagery — was quite obvious to his specialist audience, with this aspect of design always seen as a prime role for the architect and a jealously guarded area of individual professional responsibility.

But this did leave open the larger question of *who* such imagery might be aimed at? For instance was *appearance* seen as important in the following four ways:

- 1 For public and political perception of this publicly-funded building type?
- 2 As a civic or local contribution to the environmental scene?
- 3 For the benefit of patients living permanently or temporarily there, plus those working on the site and visitors?
- 4 For the architectural profession itself, in its self-appraisal of its ability to add, creatively, some design quality in the face of very stringent cost limits?

Given such bleak comments as those of the Commissioners in Lunacy, who stated that 'As the building is intended principally for ... pauper patients, all superfluous decoration must be avoided', it is comforting that the architects involved in this specialist work were, in many cases, able to transcend in their designs the lowest common denominator of sheer utilitarianism.

For instance, subsidiary elements such as water towers, chapels, halls, and lodges were all pressed into service by architects so as to provide

some counterpoint and design dialogue with the more uniform rhythm of the main buildings. And for the overall design, there was a variety of stylistic solutions that could be applied to allow for individuality and creativity, *eg* Italianate/Classical (with terracotta as an alternative to stone at Exeter), Tudor/Jacobean (at Hatton, Warwick), round arch (at Colney Hatch/Friern), or Edwardian Neo-Classical (at Horton, Epsom, by Hine).

So, reading between the lines of G T Hine's presentation at the RIBA (a specialist architect talking to fellow architects about 'a special branch of architecture'), it could be argued that he would not have wished to stress this visual aspect of asylum design — for it would be exactly there that any serious and competent professional would be expected to offer the most creative and individual contribution.

As an architect, to see that aspect writ really large, you could always study the grandest of all Victorian asylum buildings — the privately financed Holloway Sanatorium at Virginia Water (1884 by the architect W H Crossland) with its Franco-Flemish Gothic and its formidable central tower derived from that of the Cloth Hall at Ypres. But all that cost over five times the cost per patient of a publicly-funded asylum of the same date built to the Commissioners' standards. And it was those standards which Hine and his colleagues were involved with interpreting creatively, and on which his RIBA paper of 1901 was focused.

Further reading

- H C Burdett, *Hospitals and Asylums of the World* vols 1–2 (1891)
- The Builder* (1846), 349–50, 354–5: review of Charles Fowler's paper on the arrangement of lunatic asylums given to the Institute of British Architects
- The Builder* (1880), i, 274–5, 308–10: the full text, with some notes of the discussion, of a paper on 'Asylums for the Insane' given by William Dawes to the Architectural Association, London
- Commissioners in Lunacy *Suggestions and Instructions* (1856; revised 1887, 1898, 1911)
- Commissioners in Lunacy *Sixty-Eighth Report* (1914)
- G T Hine 'Asylums and asylum planning' *Journal of the Royal Institute of British Architects* (23 February 1901), 161–84, plans I–XII
- RCHME *English Hospitals 1660–1948* (1998)
- J Taylor *Hospital and Asylum Architecture in England 1840–1914* (1991)
- J Taylor 'The architectural image of the asylum' *The Victorian Society Annual 1995* (1996), 14–20

PSYCHIATRY AND WAR*M Neve and T H Turner*

The great Shell Shock debate of World War I — was it brain concussion or some form of lack of moral fibre? — left its legacy in the 1920s and 1930s with a million or more chronic neurotics joining the legless veterans to create an enormous War Pensions burden on the troubled British economy. Thus there was considerable concern, prior to the Second World War, as to the mass hysteria (and acute psychiatric casualties) that would result, for example, from large-scale bombing of cities. London's experience therefore — the effects of air raids, the psychiatrists working there, and the studies carried out — remains central to our understanding of warfare's psychiatric impact.

Useful sources include the recently published *A War of Nerves* by Ben Shephard (2002), a marvellous account of soldiers and psychiatrists from 1914 to 1994, the memoirs of a leading psychiatrist, Dr William Sargant (working at Belmont Hospital in Sutton), and some studies published in the early 1940s. They tell of panic (initially), hurriedly cleared hospitals, no psychiatric casualties (as no bombing) and bored inactivity.

But after Dunkirk it was different. Hundreds of 'mixed' cases came direct to Belmont by rail, many of the soldiers in filthy uniforms and in states of 'total and abject neurotic collapse', suffering from acute hysteria, loss of memory, or unable to use their limbs. Faced with one patient who was shaking all over Sargant gave him an injection of Sodium Amytal (a short-acting barbiturate), and 'the effect was startling'. The patient's speech returned, he stopped trembling, and he became 'intelligent, articulate, and comparatively normal'. From this were developed a whole range of sedative treatment methods using various barbiturates, and the paper 'Acute war neuroses' (*Lancet* (1940), ii, 1) became a classic in that it identified what Sargant termed the 'uniform clinical picture', equated to 'acute shell shock'. Treatment consisted of hypnotics, rest, food and sleep, and continuous narcosis for up to a week. Psychiatrists also tried to get patients to remember the horrors they had experienced (to fill in the memory gaps or 'amnesias') and found this was helpful as well.

However the two most striking features of psychiatric activity in London were: (a) the pre-

War panic; and (b) the lack of any distinctive excess of people with 'nervous' or 'mental' conditions. The only new diagnosis to emerge was so-called 'shelter phobia', despite the general belief that a first class air raid might kill about 50,000 and wound about 300,000 people (in fact the Blitz killed about 40,000 people, mainly in 1941–42).

By 1941 a better understanding of 'Civilian psychiatric air raid casualties' was outlined by F Brown (*Lancet* (1941), i, 686–91). Thus: 'the psychological reaction of civilians to air raids has been observed ... the swarms of hysterics which were expected to follow bombing have not appeared, but there are certain psychiatric disorders attributable to air raids'. The author listed a number of observed conditions:

Psychoneuroses

'Such cases usually do well in hospital and their admission is advisable because they are likely to be a nuisance in a public shelter.'

Psychoses developing in apparently normal patients

Eg a woman fighting wildly and shouting 'O help it's the Gestapo, go away, I'm a gas mask'. She asked 'what's that on the bed? It's poisoned gas'. She was disorientated, confused, and given Sodium Amytal. The next morning she made a homicidal attempt on the ward sister whom she called a Gestapo agent. She was kept narcotised with Amytal for three days, her husband being allowed to sit with her. After ten days she regained her normal personality.

Depressive psychosis

The precipitating factor was seen as being the general unrest and insomnia due to raids rather than any bombing experience.

Established psychotic patients

Patients suffering from an already established psychosis (*eg* schizophrenia as it is called today) are usually abnormally unmoved by air raids.

One researcher found that the acceptance and admission of fear, when being bombed in an air raid, was a useful reaction that tended to mean you did not develop psychiatric symptoms. This mild fearfulness might involve tremors, sweats and palpitations, and even

'looseness of the sphincters', but it was a kind of protection. He also noted that those over 60 years and adolescents were least troubled (did they develop stoicism or was it just adolescent non-attachment?), while previous bed-wetters and nail-biters did not seem to figure. The worst predictors of a bad reaction were being 'highly-strung', being 'poor social mixers', and having a poor family history.

Chronic neurotic patients often seemed 'outstandingly unaffected by the war', some actually taking up work directly connected with the war, or becoming 'absorbingly interested in political events'.

A fairly extensive survey (by Aubrey Lewis) in 1942 considered that air raids had not really been responsible for any striking increase in neurotic illness. There might be a few reactions, for a week or so, but these quickly cleared up. The incidence was particularly low in firefighters and other civil defence workers (presumably because of self-selection). The only illness-inducing condition was being buried for over one hour, with some two thirds of people developing quite prolonged neurotic symptoms.

There were also considerable arguments throughout this period as to how neuroses were caused and what were the best treatments, as shown by a furious letter in the *Lancet* ((1940), ii, 343-4) by John Bowlby and Kenneth Soddy (two leading psychoanalysts). Working in an emergency medical services war neurosis centre they found it impossible to do satisfactory work, since the director was hostile to anything but the most superficial psychotherapy. They felt patients were suffering from depression and anxiety. He felt they were just scrimshankers, repeating the old First World War debate as to whether better discipline was needed or better treatment. Bowlby and Soddy felt that this disciplinary approach had been the cause of 'much neurosis in the last war' and actually resigned their posts.

Out of all this many agreed that education should be the central feature of the post-War programme for mental health, and that mental health had a rather neglected stature in Britain. Evacuation had been especially controversial. Did it make for reduced parental anxiety or did family break-up cause more distress? Evidence seemed to favour the latter,

stimulating a much more active programme of research into the effects of separation and loss on children's development. As in so many other fields, therefore, it is probably true to say that the War was good for psychiatry, in terms of organisation, in terms of understanding the causes of symptoms, in terms of psychiatric illness being seen as 'real' illness, and in terms of the perception of the real resources required for proper mental health.

The War had also allowed what might be termed a huge psychological experiment on a civilian population being prepared for major disturbance and through its own conduct and its own reactions fending off that disturbance and rising to the occasion. The massive (and in Kleinian psychoanalytic terms) universal Bad Object — Hitler, doodlebugs, fires, death — turned out to unite the sufferers of the Blitz and allowed them to discover the Good Objects in themselves. Anonymous neighbours became friends. Individuals faced dreads in themselves and overcame them. The records of the Mass Observation survey, now housed at the University of Sussex, speak volumes in this regard. Fear was overcome, new social alliances made, new psychological strengths uncovered. The myth of the Blitz was the truth of the Blitz, a revelation as to buried mental and physical health, brought into being by new kinds of terror and civilian danger that had only Guernica in the Spanish Civil War as a precedent. To put it at its simplest: just as many evacuee children discovered new powers while away from London and the big cities — even discovered a form of relief, the very opposite of deprivation — some of the Mass Observation evidence shows clearly the strangest and unlikeliest of outcomes: that of individuals who missed the bombs because of the mental health that they had brought into being — the health not just of individuals now free of anxiety or daily neurosis, but of whole streets, whole districts. The Blitz became proof of a contradiction of much interest to commentators and novelists in the modern period, Tolstoy not least: that war brings peace, just as a world in peacetime can all too often reveal a secret world of anxiety and panic and isolation and combat, hidden behind the curtains. London in the Blitz made public the psychological strength that peacetime was in danger of corrupting and turning inside itself.

REVIEWS

A Research Framework for London Archaeology 2002. Edited by T Nixon, E McAdam, R Tomber and H Swain, for the Museum of London. Museum of London, 2002. Pp. xi + 120, 43 figs. ISBN 1 901992 29 2. Price: £4.95 pb.

This carefully written report deserves the close attention of all those planning archaeological excavation and research in and around London. There are some good ideas here. Indeed some are excellent. But that is not quite the point. This report cannot be ignored because it occupies a key place within the panoply of bureaucratic controls that now guide archaeological investigations within the Capital. As its authors suggest, it offers 'a pragmatic framework that will guide but not proscribe archaeological research'.

Once upon a time archaeologists dug things 'because they were there'. The very concept of research selectivity suggested a blinkered bias: sound method and serendipity were all. Inevitably and necessarily the pendulum has swung. Today the *a priori* ability to define aims and objectives sits at the heart of archaeological endeavour: questions come first and last. But not all questions are equal, and there is a power in the asking. Here the Museum of London reasserts its central role in the process of archaeological research in London by setting an ambitious agenda.

One of the reasons for writing the report is an essential mistrust of the research-light vices of commercial archaeology, as we are told here 'the role of research in commercial archaeology is still dysfunctional'. It is evidently feared that archaeological contractors new to London will not know what questions to ask of its archaeological sites. So here we have the distilled wisdom of those who have already applied themselves to the subject. It took four years of consultations, involving 120 individuals and organisations, to come up with this digest of 200

ready-made research topics. These are set out in a series of period based chapters (Prehistoric, Roman, *etc*), each one of which addresses a series of common themes (Topography, Economy, *etc*). Many of the topics are broadly defined and will be difficult to convert into programmes of applied research. For instance, the discussion of the Roman economy proposes 'investigating the relationship between town and country in the production and supply of food'. This is an important topic for future research, but one that can itself be made the subject of a lengthy consultation exercise generating a further series of research questions and methodologies. As one question leads to another there is a risk that the breadth of scope found here will take us to the point where we want to know everything about everything. This is perhaps true, and it will certainly cause least offence within a critical peer community jealous of its specialisms. But how much does it really take us forward? And will this worthy shopping-list seriously contribute to developing new programmes of research, or just provide useful camouflage to existing programmes of commercially driven investigations? The Museum of London hopes that by articulating and communicating these ideas and priorities it will foster a more inclusive research culture. The attempt is laudable, but it takes optimism to believe that it will have the desired impact on research practice.

This report has two other stated objectives. In addition to facilitating better focused archaeological research, it seeks to promote the potential of the London Archaeological Archive as a research tool, and to contribute to improved resource management in the future. The London Archaeological Archive is undoubtedly an exciting resource, but it is at risk of appearing as something of a cuckoo in this particular nest. At some points the emphasis given to the potential of the paper and digital record contrasts with a

comparative, if clearly unintended, neglect of the potential of the artefacts and ecofacts held within the Museum of London's stores. But the key point, that the London Archaeological Archive forms the largest archaeological archive in Europe, emerges clearly enough and reminds us of the international importance of this material. Another somewhat neglected feature is the importance of the process of experimentation: the practice and social context of archaeology is itself an under-exploited research topic. One final matter of concern, and perhaps the most important, is the risk that we may be stuck with the particular biases and interests of this research framework for too long. A regularly maintained web-version of this document, with links to other research fora and resources, might provide a more flexible way of ensuring that new ideas can swiftly find their place in regional research priorities.

Dominic Perring

Settlement in Roman Southwark: Archaeological Excavations (1991–8) for the London Underground Limited Jubilee Line Extension Project. By James Drummond-Murray and Peter Thompson with Carrie Cowan. Museum of London Archaeology Service Monograph 12, 2002. Pp. xiv + 294, 116 figs. ISBN 1 901992 28 4. Price: £22.95 pb.

I was delighted to see the publication of this monograph and equally delighted to be asked to review it. I was closely involved with the project in the guise of the former Department of Greater London Archaeology's consultant to London Underground, and subsequently as the Archaeology Officer for the London Borough of Southwark during the excavation phases, so I knew the project and sites intimately. I was also aware that the results were exciting and that they would engender a far greater understanding of this important, largely uninvestigated part of Roman Southwark.

The first thing I do on picking up an archaeological publication is to flick through it to see how enticingly it has been presented. The presentation of this monograph immediately drew me in, in a way that very few other publications have. I was also encouraged to see that the monograph was described as being in the form of a 'coherent narrative', which is quite a challenge for such a complex set of sites.

In the introductory part of the book I feel that a broader overview of the current state of knowledge, rather than a focus on particular sites, would have been more beneficial. Following on from that, I would have preferred to see a brief summary statement of the questions that the extensive archaeological work was aiming to answer.

Perhaps inevitably, the narrative focused around the development of the buildings along Southwark Roman Road. Although well written and interesting, this narrative all too often lacked the human angle — the people who lived and worked in this part of Roman London. We do get hints of the people, as in the blacksmith's workshop possibly passing from father to son, the suggestion that the eastern quarter may have been more residential, and the fact that the hens may have been sheltering from the rain and the cold in the blacksmith's workshop. For me these glimpses of humanity are what brings the archaeology to life and gives it real meaning.

In places the narrative was broken up by lengthy descriptions of certain pottery assemblages, which badly interrupted the flow. I appreciate that the assemblages were important, but the information could have been effectively tabulated as elsewhere in the volume. On the plus side, I found the pottery illustrations both innovative and informative, and of much potential interest to the reader, rather than just the specialist. The period site plans are very well presented and the development of the road frontage is clearly shown. Missing though were one or two artist reconstructions of what the road frontage might have looked like. As soon as I saw the evidence on site for the colonnaded building I had a picture in my mind's eye as to how it might have looked, and it is a shame that such an image is missing from the book.

I felt that some lines of enquiry could have been pursued further and put in a broader context, such as the lack of exotic import evidence in the immediate post-Boudican period. It just needed a couple of sentences to say that the revolt and the sacking of London, St Albans and Colchester are likely to have had a major impact on the administrative and trading systems and on confidence amongst the merchants and the surviving local populace. Also, whilst the results do undoubtedly extend our understanding of Roman London south of the River Thames, they could have been put into a wider context extending beyond London.

With regard to the specialist appendices, they take up almost half the book and I feel add nothing to the coherent narrative. If it is to be seen as an integrated report do we really need pages of tables that are perhaps only meaningful to a handful of specialists and researchers? Having said that, the coin and bone reports were slightly more accessible.

To summarise, I did enjoy reading the book. The use of colour illustrations scattered liberally throughout, the summary dating tables, and colour photographs all worked well. The conclusion was an excellent summary and provided an assessment of what had been learned from all the hard work that had been carried out, under very difficult site conditions. The book did lead the reader through the early beginnings, destruction, and later consolidation of this important Roman retail centre. One of the key results was the extensive evidence for early Roman ribbon development along the roadside as it approached the crossing into the City. Another was the conclusive proof that the area south of the river was also subject to the Boudican firestorm of AD 60.

In conclusion I think the authors and MoLAS are to be congratulated on the publication and for aiming for an integrated report as a coherent narrative.

John Dillon

Roman Defences and Medieval Industry: Excavations at Baltic House, City of London. By Elizabeth Howe. Museum of London Archaeology Service Monograph 7, 2002. Pp. xi + 122, 80 figs, 48 tables. ISBN 1 901992 17 9. Price: £12.95 pb.

Roman and Medieval Townhouses on the London Waterfront: Excavations at Governor's House, City of London. By Trevor Brigham with Aidan Woodger. Museum of London Archaeology Service Monograph 9, 2001. Pp. xii + 144, 74 figs, 26 tables. ISBN 1 901992 21 7. Price: £12.95 pb.

Medieval 'Westminster' Floor Tiles. By Ian M Betts. Museum of London Archaeology Service Monograph 11, 2002. Pp. xii + 78, 49 figs, 9 tables. ISBN 1 901992 24 1. Price: £11.95 pb.

These three monographs together illustrate the importance of the great range and diversity of archaeological endeavour within London. This

importance relates not only to the discoveries themselves — which are often remarkable — but also to the historic depth of research in London which is used to inform current and future archaeological activity. Furthermore, the development of methodological approaches to the investigation of complex and constrained urban sites is now a London specialism, one manifest in the results summarised in the two excavation reports under consideration.

The excavations at both Baltic House and Governor's House were conducted under difficult circumstances. While those at Baltic House were constrained by substantial truncation of deposits, those at Governor's House were restricted in area, depth, and approach. The results of this latter excavation in particular provide a textbook example of how the implementation of thoughtful methodologies can achieve overarching results beyond the value of individual excavated areas.

Planning for the 1996–7 excavation of the Governor's House site (called 'Suffolk House' in much of the text, Governor's House being the name given to the new development subsequent to the excavation) was greatly assisted by Peter Marsden's observation of previous redevelopment work in 1969. His watching brief not only provided a structural framework within which to explore the Roman sequence but it also enabled adoption of a mitigation strategy designed to minimise damage to archaeological deposits and features. This strategy, however, led to an excavation pattern which examined only 4% of the site by area and less than two-thirds of that in detail; it is a tribute to the excavators and specialists that, even so, sufficient data was recovered to produce a plausible — and detailed — description and assessment of the development of the pre-urban and urban landscape.

Where the Governor's House site was constricted by area, the excavation at Baltic House was also constrained, notably by the impact of the now-demolished Baltic Exchange of 1900–03. Work here, nevertheless, was able to provide good evidence for land use in the Roman period, informing our understanding of the extent, defensive features, subsequent expansion, and, later, contraction of the Roman city. Similarly, land use development could be seen at the Governor's House site, where well-preserved waterfront features demonstrated that it was necessary to revet the Thames foreshore,

in order to offset the effects of tidal flooding and erosion, prior to satisfactory construction of buildings. A series of Roman structures, some with probable river frontage arcading, was identified.

Development of the high status Governor's House site was preceded by gold working, evidence being found for gold melting, cupellation and parting, with casting being implied, although not located in the excavated evidence. While comparison with discoveries made at Bush Lane House in 1972 implies a relatively extensive area of activity, it is unlikely that it survived for long within this rapidly developing and important area of the Roman city. The more expected location of such industrial processes, on the fringes of an urban area, could be observed for a later period at Baltic House, where considerable evidence for medieval bell-founding, together with the manufacture of kitchen vessels, was discovered. This material, on a difficult site where otherwise only a limited understanding of early medieval activity and medieval buildings was possible, provides some of the most compelling and useful data of relevance beyond its London context.

Indeed, it is this wider context which gives both reports their value. The clear exposition of features, illustrated as appropriate with finds data, contains much of use to archaeologists and urban historians outside the metropolis. An example is the timber assessment from Governor's House: the Roman timbers recovered from waterfront structures not only enable a better understanding of Roman wood technology — including, through examination of re-used material, wall construction in Roman timber-framed buildings — but their study also has implications for an understanding of the natural environment of the city's hinterland and the manner in which it was exploited.

Most importantly, however, archaeologists working in urban areas should take note of the assessment of the mitigation strategy employed at the Governor's House site, the effect that this had upon the research questions posed at the outset, and the implications for future research. The discussion of these issues (68–72) is a model of clarity and provides reassurance that complex and constrained sites can yield significant results if approached with thoughtfulness and care.

The title of the third monograph does not necessarily imply applicability to a non-London audience and yet, of the three, this book is the one most likely to find itself in archaeological offices across the South and East of England

once its content is appreciated. The volume ranges from London to the Midlands, with an excursion into Norfolk, and is essentially a corpus of 'Westminster' floor tiles. The inverted commas are important — p 3 has a useful section on terminology which clarifies the difference between Westminster and 'Westminster' tiles. Amusingly, the author points out that both are misnomers and confusing; if this was a ploy to hook the non-specialist early on, p 5 lands the reader on the bank when it becomes clear that the tiles under discussion are very poor and, if 'not the very worst medieval tiles made', they were clearly pretty dreadful (a flint inclusion measuring 25mm long by 15mm deep was found in a tile only 24mm thick which, remarkably, was not only fired successfully but also laid in a floor and much worn by tread).

The monograph is comprehensive and well-illustrated, utilising colour photographs to good effect. It covers manufacture, production sources, distribution, size and dating of tiles, decoration, paving designs and mosaic flooring. It outlines areas of future research and, as with the excavation reports, it has also made use of the London 'back catalogue' of archaeological investigation and observation, providing an assessment of a tile kiln located in Farringdon Road in the 1860s which almost certainly produced 'Westminster' tiles. In short, both this volume and the excavation monographs are tributes to the quality of London's archaeology and the skill and clarity of exposition of London's archaeologists.

Brian Ayers

Middle Saxon London: Excavations at the Royal Opera House 1989–99. By Gordon Malcolm and David Bowsher with Robert Cowie. Museum of London Archaeology Service Monograph 15, 2003. Pp. xvi + 359, 180 figs, 116 tables. ISBN 1 901992 32 2. Price: £26.95 pb.

This sumptuous monograph provides reports on a range of archaeological works associated with the redevelopment of the Royal Opera House site in Covent Garden in central London. It is, however, much more than a report of work undertaken. The main title has clearly been chosen deliberately, as the structure of the monograph and the range of information within should ensure that it will stand for some time as

the principal source for an understanding of the development, nature, function, and status of *Lundenwic* within Anglo-Saxon England.

It is perhaps appropriate to consider initially the structure of the volume. In essence this falls into three parts: a chronological narrative, thematic essays, and specialist reports. While this is now standard MoLAS practice for reports (following production in 1997 of that for work at St Mary Spital), the publication of a volume entitled *Middle Saxon London* is a test of the format. Does it enable an understanding of the complexity of the archaeological evidence — artefactual as well as structural — while ensuring an effective appraisal of the contribution of this material to wider considerations? Is enough primary information presented to enable the reader to understand how conclusions have been drawn? Most importantly, is it *readable*?

The answer to all of these questions, for this reviewer at least, is a triumphant 'yes'. It is rare to find chronological summaries presented in such a coherent manner, with clear figures and careful integration of relevant artefactual and ecofactual information. The use of colour plans, excellent photography of artefacts where such images provide as much information as a drawing, the courage to integrate tabulated information where it assists the text, the placing of structures into meaningful groups, and the necessary use of implied functions (such as 'smithy' and 'comb workshop') to anchor the discussion all contribute to enhancing immediate understanding. A traditionalist might lament the absence of sections as well as plans where every post-hole context number is visible, but the clarity of exposition, which ensures that successive phase plans can be readily compared, underlines the rigour of the recording process and gives the reader confidence in the presentation.

It is fair to say that the reader is softened up for each period in the chronological narrative by splendid summaries of the historical background. These follow on from a summary of current knowledge (1–4) which would serve as a primer for any student wishing to grasp the importance of *Lundenwic* with minimum effort. This introduction also ensures that the reader is aware of the significance of what is to come: 0.4% of the estimated area of Middle Saxon London was excavated at the ROH site within a sampling strategy which, though based carefully upon research questions, could still produce some 50,000 animal bones for analysis, perhaps 10%

of the total. Aware of such daunting figures and impressed by the clarity of the introductions, it is easy to appreciate the sophisticated approach to the chronological narrative.

Yet this narrative is not the meat of the monograph. As the authors themselves state (7), the 'most important component of the publication' is that which comprises the thematic discussions. These only occupy some 50 pages of the volume (141–96), but they ensure that the report not only provides an understanding of the site but also uses the accumulated evidence to inform a wider appreciation of *Lundenwic*, its environment, and contacts.

The thematic essays are divided into two classes, the first of which primarily explores issues of dating and chronology. Thereafter, the second class discusses topics of 'much wider import', seeking to explore the overall context of the discoveries, the impact upon the current state of knowledge, and theories of the nature of settlement.

The range of discussion is obvious from the main section headings: relationship to *Londinium* and use of Roman resources; layout and plan; buildings; daily life; craft and industry; agricultural economy and exploitation of natural resources; trade and status; and development and demography. The comprehensiveness of approach is the more plain once sub-headings are also considered ('daily life', for instance, comprises cooking and diet, sanitation and environment, appearance and dress, objects of everyday use, objects with funerary and religious associations, and security).

While it is not possible to assess each of these within the compass of a review, the general observation should be made that, as in the chronological narrative, the text is not afraid to utilise as many data sources and methodologies as possible in order to enhance understanding. Thus, within the area of textile manufacture under 'craft and industry', the exposition is illustrated by finds photographs and drawings, by a site photograph, two tables and a graph. The net effect is to ensure that the reader can readily relate the evidence of manufacture to the site phases and plans provided earlier in the volume. Similarly, the tables and histograms which accompany discussion of land use and buildings enable an overview of site development which complements the plan data elsewhere (fig 121 is a good example of a simple but effective histogram which combines context information

with interpretation to render a visual image of growth and decline).

Identification of roads and alleyways, as well as a late (presumed defensive) ditch, has led to an increased understanding of the urban topography of Middle Saxon London, mapped with underlying relief on p 146. Within this framework, however, the new information concerning urban buildings will clearly influence future work. More than 60 buildings were identified; these included post-built and sill beam structures with evidence for walls, hearths and internal fittings as well as occasional rare survivals such as part of a wattle-and-daub wall for Building 27. While it was not possible to identify significant changes in building type from the 7th to 9th centuries on the site, it was possible to 'recognise relatively standard sizes of the buildings, which has been invaluable in developing a template for use in reconstructing the layout of the settlement'. Obviously such a template will also be of considerable assistance for future work in London where fragmentary remains of Middle Saxon buildings can be anticipated as the norm. Another attraction of the report is that the authors are aware of the developing nature of research, that their results will inform future research directions, and that they should, where possible, assist future interpretation.

Most readers will understandably concentrate on the thematic essays, extracting the meat with judicious reference to the coloured period plans within the chronological narrative. Together, however, these two sections only comprise half of this remarkable book. The concluding section is that of 'specialist appendices', a heading which so often is a sub-text for 'too boring to look at'. Not here: the specialist information is generally presented in a manner which is clear, informative, and interesting. Indeed, parts of the text will almost certainly be trawled for basic information beyond the data recovered from the site. As an example, the discussion of the purse-hoard of Northumbrian stycas (278–84) is prefaced by an introductory essay on the complexities of understanding the significance of stycas which, to this non-specialist, is concise, lucid, and fascinating. As in the earlier sections, a range of data sources is used in the appendices (not always with obvious clarity — table 28, for instance, could have been supported by a histogram similar to that in fig 121 in order to illustrate quern stone distribution, but this is a minor quibble).

Occupation of the site ceased after the 9th century but it is worth noting that evidence of medieval and post-medieval activity was also encountered by the excavators and duly recorded. Ch 4 of the volume is usefully devoted to this material. Post-medievalists who merely consult this section and are bemused by the sub-heading 'Wireworms to Gardens' will be grateful for the comprehensive index, another of the virtues of the monograph, which will send the wireworm seeker to p 132, where they inhabit a discussion of 'dark earth' deposits.

Lundenwic, Bede's 'emporium for many nations who come to it by land and sea', was lost until the mid-1980s when the work of Martin Biddle and Alan Vince brought it blinking into the daylight. Their distribution maps were augmented by a gazetteer of Middle Saxon sites produced by Robert Cowie, a co-author of the ROH monograph, in 1988. Notwithstanding excavations at locations such as Jubilee Hall and Maiden Lane in 1985, however, it is the results of the ROH work which enable characterisation of the settlement, indicate substantial manufacturing in the town, identify zoning of activities, enable examination of the developing urban/rural relationship, and characterise trade. Such results were always going to make the report significant. This splendid monograph goes beyond this and gives us a volume which is appropriate for the specialist, student, and lay reader all at once. It is a remarkable achievement and deserves both congratulations and, given its reasonable price, sales.

Brian Ayers

The Dead and the Living in Paris and London, 1500–1670. By Vanessa Harding. Cambridge University Press, 2002. Pp. xv + 343, 10 figs, 2 maps. ISBN 0 521 81126 0. Price: £50.00 hbk.

A visit to the Museum of London's archaeological excavations for the Broadgate Centre in 1986 provided the initial inspiration for Vanessa Harding's study of death and burial, of which this volume is the culmination. The site (sadly still unpublished) showed the apparent chaos of the intensively used New Churchyard, founded in 1569, which led to a range of questions, such as how far was the initiative to create this burial ground typical of civic attitudes and the safe disposal of bodies in that time and place? What

factors determined who was buried there? Who managed burial in early modern London?

This book is based on the historical and documentary sources available for London and follows on from Harding's earlier important works and expands on the many themes addressed in these. It is now recognised that the study of death can offer insights into the structure and relations of historical societies and the early chapters of this book place death and burial into its social context. Death was ever present to the 16th- and 17th-century Londoner — by the end of the study period the population of London was around 500,000, while at the same time the annual mortality was around 18,000. The variations in these rates and the causes are addressed, particularly regarding the frequent outbreaks of plague during the study period. The pressure that was placed on the burial authorities by large-scale epidemic mortality was immense and the different approaches are examined. The administrative organisation required to maintain the system is also explained in this section of the book. This serves as a good guide to London's civic control for any students of this period.

After placing the subject in context, the second part of the book follows on from her 1989 paper "‘And one more may be laid there’: the location of burials in early modern London". It looks at the development of burial practice, the start of charging and the variable fees dependent on location, along with the increased usage of coffins. It also examines the desire to be buried within the church rather than the churchyard and the factors that determine this. It looks at the use of discrete areas within churchyards for different types of burial, which is one of the things that can be tested in the archaeological and osteological record.

The use of civic and non-parish churchyards, such as St Paul's Churchyard and the aforementioned New Churchyard, was clearly a minority choice, but it is still examined in detail. These churchyards probably replaced the loss of the medieval hospitals for burial, such as at St Mary Spital. The recent excavations here have shown what the extent of that loss was as over 10,000 burials were found.

The standing of an individual was a major influence on the choice of burial location, which also brought other responsibilities. If individuals used expensive burial locations then they were expected to use better and more expensive

coffins and coffin furniture. It is hoped that this can be demonstrated in the archaeological record and is something that I will be looking carefully for in any future work.

The different approaches of the London churches are as significant as the similarities and these form a highly detailed section of the book. The people who were buried in the church were the élite of the local community and inevitably left more of a documentary record behind them, but the churchyard was a valuable community space for both the dead and the living from all strata of society.

The introduction of lead coffins shows a clear change in the perception of death and the body. The sealed lead coffin was intended to prevent decay and to provide an immortal body. This also produced major problems for the churches and churchyards as a lead coffin formed a much more substantial impediment to the reuse of the burial space than a wooden one.

Private vaults and chapels made certain areas of the church or churchyard private domains, which was a significant shift. This section includes the only comment that I disagree with, and that is extremely minor. Having dealt with a number of vaults, both public and private, I do not think that the intention was for the coffin to be seen again, and it is clear from the state of the vaults that the public were not expected to enter them.

This section of the book ends with a good summary of the significance of burial location and how that marks an individual's place in the community.

The second major section of the book deals with funerals and the rituals associated with death. This forms a fascinating study of all aspects of the funeral from all strata of society, from the pauper to royalty. All topics are covered, from the costs of the funeral to the number of bells to be rung, the lights to be used, and the use of hangings and the hearse cloth.

I must confess that as a funerary archaeologist working in London I found myself skim reading many of the sections on Paris and therefore missing many of the similarities and differences between the two cities, but, for any students of death and burial in general or of Paris, it is clear that the wealth of information available within this volume is no less than that for London.

Much of the material presented is simply not available to the field archaeologist from excavations, as much of it covers the factors that

leave no trace in the ground. However, another critical factor is that much of the archaeological material for the period of this book is masked by later usage of the burial spaces. Even the burial grounds created after the Fire on the site of burnt churches are likely to be represented by the later burials, with the earlier graves truncated or completely disturbed. In the burial grounds that were in use from the medieval period up to the 1850s, the chances of any burials from the 16th–17th centuries surviving is very remote.

This volume should be essential reading for anyone working in funerary archaeology in post-medieval London (or Paris) and should be of great interest to anyone studying the period it covers. Although written from the historical perspective there are so many factors which should be taken on board by archaeologists to help in our understanding of the significance of death and burial to the people we excavate. Vanessa Harding has previously argued that the increasing amount of excavated material should be looked at with a historian's eye and that a multi-disciplinary research approach will help all groups. I can only echo that sentiment and hope that if this is the conclusion of Dr Harding's work into death, she brings equal insight into her new research into the family.

Adrian Miles

Mile End Old Town 1740–1780: A Social History of an Early Modern London Suburb. By Derek Morris. East London History Society, 2002. Pp. 124, 20 figs, 8 tables. ISBN 0 9506258 3 3. Price: £9.50.

Richard Morris paid his Land Tax on a small house in Mile End Old Town one day in 1746, little thinking that this mundane action would motivate a direct descendant, Derek Morris, to reconstruct the 18th-century hamlet and the lives of its inhabitants for 21st-century readers. The author's method was to follow in the footsteps of the tax collector around the study area and find out as much as possible about the buildings and people within it from 1740–80, a period when the collector's clockwise route could be traced from year to year.

Mile End Old Town, not to be confused with Mile End New Town, an offshoot of Spitalfields, was set along the Great Essex Road (now Mile End Road) and Stepney Green. It was cut off from the River Thames by Wapping, Ratcliffe,

and Limehouse and had the reputation of being more genteel than the riverside communities, with a higher proportion of substantial merchants and sea captains leavened by a sprinkling of gentry and scholars living there. The Vestry of St Dunstan's, Stepney, the parish church for the area, governed local affairs. The Vestry in 1740 included an Elder Brother of Trinity House, a future Garter King of Arms, and a slave trader, as well as two local brewers.

The hamlet was in the Manor of Stepney and Manor Courts were held almost monthly in various taverns, mainly recording property transactions. George Colebrooke, Lord of the Manor from 1754–86, was a prominent member of the East India Company, financier, and MP. The records show that many of the property owners had addresses far removed from Mile End, all over the British Isles and beyond as far as Barbados.

Building was expanding as the number of taxpayers increased from 100 to 500 between 1693 and 1770. Good use of the Land Tax Returns, Insurance records, and the archive of the Leake estate and wills enables the author to paint a credible picture of the houses, furnishings, and lifestyles of the inhabitants of Mile End Old Town. The largest house, built on the south side of Mile End Road, by Elizabeth Fitzhugh, widow of a sea captain, in 1738, was comparable in insurance value to one in St James's Square. Most houses were much more modest, but there was such a call for domestic help that a 'Hall for hiring servants' was opened in 1768 where, on different days of the week, men and maids could be examined before hiring.

The position of Mile End Old Town on the main road from London to Harwich helps account for the 40 licensed houses, some like the curiously named 'Old Why not beat Dragon' with their own brew houses and stabling for coach horses. 78% of the land was open, producing hay, providing pasture and a small amount of wheat. Geese were fattened in Mile End and both goose feeders and farmers used the London markets. Market gardens provided fresh food for the nearby City. Career opportunities were diverse, with the maritime service and East India Company for the adventurous and brewing and rope making at home, whilst many young men were apprenticed to City Livery Companies.

Mile End Old Town was home to an unusually high number of almshouses, of which only the Trinity Almshouses still stand. Apart from

provision for the local poor, there was a workhouse belonging to All Hallows by the Tower and a private workhouse and net manufactory that took in poor from overcrowded London parishes, at a price.

Derek Morris has examined a large number of original sources and produced a lively account of Mile End Old Town in the 18th century. Occasionally there is a slight blurring between

the hamlet and surrounding areas and this reader would have liked to have been able to identify quotations more precisely, and a reproduction of Rocque's map would have been helpful, but the book is a good read and he has achieved his objective in creating a foundation for further research.

Eileen M Bowlt

INDEX

L.F. Pitts

Page numbers in italics denote illustrations

- Allen, Michael J 9
almshouses 111
animal bone:
 medieval 65
 post-medieval 102
 Roman 5, 6
Anne of Denmark, Queen 81
Anthony, Sian, and Steve Ford with Charlotte Thompson 'An early Roman occupation site and prehistoric finds at Westferry Road, Isle of Dogs, Tower Hamlets' 1–7
architects 123–5
armlet, copper alloy, Roman 20
armorial pipes (tobacco) 99
Ashburnham, John 112, 113, 115
'...a special branch of architecture: architects and the design of large asylums in the Victorian period' (Jeremy Taylor) 123–5
'A summary of papers read at the LAMAS Local History Conference held at the Museum of London on 15 November 2003: Lunatic London' 121–7
asylums 121–7
Atherton, K 79, 100
Ayers, Brian reviews Ian M Betts *Medieval 'Westminster' Floor Tiles* 131–2; Trevor Brigham with Aidan Woodger *Roman and Medieval Townhouses on the London Waterfront: Excavations at Governor's House, City of London* 131–2; Elizabeth Howe *Roman Defences and Medieval Industry: Excavations at Baltic House, City of London* 131–2; Gordon Malcolm and David Bowsher *Middle Saxon London: Excavations at the Royal Opera House 1989–99* 132–4
Bargehouse, Royal 80, 81, 85, 92, 93–4, 107–8
'bastions' 85, 107
Bazalgette 81
Beaumont, Elizabeth, Baroness Cramond 111–19
Beaumont, Francis 111–19, 114
Beaumont, Mary, Countess of Buckingham 112
Berestrete 66
Bethlem Hospital 122
Betts, Ian M *Medieval 'Westminster' Floor Tiles* (reviewed by Brian Ayers) 131–2
bird bone:
 medieval 65
Bishop, Barry 23, 33
Blackmore, Lyn 59
Blitz 127
Bodenham, Sir Wingfield 115
Boteler, Sir John 112
Bowl, Eileen M, reviews Derek Morris *Mile End Old Town 1740–1780: a Social History of an Early Modern London Suburb* 136–7
Bowsher, David *see* Malcolm, Gordon
Bradley, Tim 'An excavation at the Sir John Atkins Building, Campden Hill, Royal Borough of Kensington and Chelsea' 23–37
brick:
 post-medieval 45, 48, 67, 68, 91, 94, 100
 Roman 18, 45, 47, 48, 56
Brigham, Trevor, with Aidan Woodger *Roman and Medieval Townhouses on the London Waterfront: Excavations at Governor's House, City of London* (reviewed by Brian Ayers) 131–2
Bronze Age hoard 25
Bronze Age occupation 15, 20
Bronze Age trackway 1
bronze objects 24
brooch, penannular, Roman 6
Brown, Duncan H 79, 96
Buckingham, Duke of 112
burials, Bronze Age 20
'burnt mound' site 24, 33–4, 35
Burystrete 60–1
Cameron, N G 79, 105
Campden Hill *see* 'An excavation at the Sir John Atkins Building, Campden Hill, Royal Borough of Kensington and Chelsea'
carpentry, structural 86, 108
Carruthers, Wendy J 9
Carter, Francis 113
Carthusian priory 111
cellars 67, 69, 75
ceramic weight 33
cereals:
 medieval 65
 Bronze Age 17, 20
 Roman 18, 45, 52, 56
cesspits, Roman 18
Chambers, Sir William 81, 90, 108
charcoal 15–17
'Charles and Mary Lamb and their lunatic asylum' (Lionel Lambourne) 121–3
Charles I 112
Charles, Beth 79, 102
Charterhouse Chapel 111–19
Christ Church, Newgate 115
clay objects 27, 97–100
Clifford, Lady Anne 117
Coleridge, Samuel Taylor 121–3
Cooke, Nicholas 9
copper alloy objects 20, 67, 74
Cramond, Baroness 111–19
Cropper, Cecily 79, 101
culverts 91
Dallington, Sir Robert 117
Davis, Anne 59
Dawes, William 124
diatom analysis 105–6
Dillon, John, reviews James Drummond-Murray and Peter Thompson *Settlement in Roman Southwark: Archaeological Excavations (1991–8) for the London Underground Limited Jubilee Line Extension Project* 130–1

- ditches:
 Iron Age 27, 28, 35, 40
 post-medieval 30
 prehistoric 15
 Roman 17, 29, 35, 44
- Dobinson, S J 79, 105
- Dollis Hill *see* 'Excavations at Dollis Hill, Brent'
- Domesday Book 66
- Doulben, David 115, 116
- Drummond-Murray, James, and Peter Thompson *Settlement in Roman Southwark: Archaeological Excavations (1991–8) for the London Underground Limited Jubilee Line Extension Project* (reviewed by John Dillon) 130–1
- Drury Lane theatre 123
- 'Early Roman occupation site and prehistoric finds at Westferry Road, Isle of Dogs, Tower Hamlets, An' (Sian Anthony and Steve Ford with Charlotte Thompson) 1–7
- earring, Roman 6
- East Bedfont *see* 'Excavations at Mayfield Farm, East Bedfont, London Borough of Hounslow'
- Elizabeth I 81
- ewer 64
- 'Excavation at the Sir John Atkins Building, Campden Hill, Royal Borough of Kensington and Chelsea, An' (Tim Bradley) 23–37
- 'Excavations at Dollis Hill, Brent' (David Sankey) 39–58
- 'Excavations at Mayfield Farm, East Bedfont, London Borough of Hounslow' (Philip Jefferson) 9–21
- ferry, Thames 60
- field systems:
 Bronze Age 9, 15, 20
 Roman 15
- fire rake 101
- fire shovel 101
- fish bones:
 medieval 65
- Fisher, Philip 118
- flints 6, 13, 15, 23, 24, 33–4
- Ford, Steve *see* Anthony, Sian
- Fowler, Charles 124
- Framework Archaeology 9, 11
- 'Francis Beaumont's monument in Charterhouse Chapel and Elizabeth, Baroness Cramond as patroness of memorials in early Stuart London' (Stephen Porter) 111–19
- Fulham High Street *see* 'Medieval and post-medieval Fulham, excavations at 31–35 Fulham High Street, Fulham SW6, 2002'
- Fulham Palace 61
- furnace 95, 108
- gardens, Tudor 81, 83, 85, 107
- Giorgi, John 39, 51
- glass, post-medieval:
 bottle 101
 window 101
- glass, Roman:
 bottles 6, 18
- granary 35
- grate, cast iron 95
- gravel quarrying 30
- gullies:
 medieval 61
 Roman 5
- gunflint 30, 34
- hair curler 100
- Hanoverian Arms, on tobacco pipe 99
- Harding, Vanessa *The Dead and the Living in Paris and London, 1500–1670* (reviewed by Adrian Miles) 134–6
- Harward, Chiz 'Medieval and post-medieval Fulham, excavations at 31–35 Fulham High Street, Fulham SW6, 2002' 59–77
- Hayden, C 79, 106
- Haydon, Benjamin Robert 123
- hearths:
 medieval 66
 post-medieval 90
- Heathrow Airport 9–21
- hengiform monuments 13
- Henrietta Maria, Queen 81
- Hertfordshire puddingstone 40, 45, 48
- Heyward, Thomas 117
- Higgins, D A 79, 97, 100
- Hine, G T 124
- 'historical development of Somerset House: an archaeological investigation, The' (Duncan Wood and Julian Munby) 79–110
- Holland, Frances 112
- hones 41, 46, 63–4, 64, 74
- Hooker, Peter 112
- Howe, Elizabeth *Roman Defences and Medieval Industry: Excavations at Baltic House, City of London* (reviewed by Brian Ayers) 131–2
- Hubert le Sueur 118
- hypocaust 56
- industrial complex 94, 108
- Iron Age occupation 15, 17, 26, 35
- iron objects 41, 46, 101
- Isle of Dogs *see* 'An early Roman occupation site and prehistoric finds at Westferry Road, Isle of Dogs, Tower Hamlets'
- Islington Mad House 122
- James I 111
- Jefferson, Philip 'Excavations at Mayfield Farm, East Bedfont, London Borough of Hounslow' 9–21
- joists 88, 89, 90
- Jones, Inigo 81
- Keats, John 123
- Keily, Jackie 59
- King's Bargemaster 85
- Lamb, Charles 121–3
- Lamb, Mary 121–3
- Lambourne, Lionel 'Charles and Mary Lamb and their lunatic asylum' 121–3
- Law, John 113
- lead objects 64
- London Archaeological Archive and Research Centre 40, 59
- loomweights 6, 27, 33
- Ludenwic* 81
- lunatic asylums 121–7
- Malcolm, Gordon, and Bowsher, David *Middle Saxon London: Excavations at the Royal Opera House 1989–99* (reviewed by Brian Ayers) 132–4
- marble 101
- market gardens 66, 75
- Marshall Alley, Fulham 70
- Mayfield Farm *see* 'Excavations at Mayfield Farm, East Bedfont, London Borough of Hounslow'
- McAdam, E *see* Nixon, T
- 'Medieval and post-medieval Fulham, excavations at 31–35 Fulham High Street, Fulham SW6, 2002' (Chiz Harward) 59–77
- medieval occupation 60–6
- memorial tablets, wooden 115
- Mepham, Lorraine 9
- metalwork, Bronze Age 40
- Miles, Adrian, reviews Vanessa Harding *The Dead and the Living in Paris and London, 1500–1670* 134–6
- MoLAS 10, 13, 39, 59, 80
- molluscs 102
- mooring ring 101
- Morris, Derek *Mile End Old Town 1740–1780: a Social History of an Early Modern London Suburb* (reviewed by Eileen M Bowlt) 136–7
- Moyer, Humphrey 115

- Munby, Julian *see* Wood, Duncan
- Nailer, Alison 39, 46
- nails 101
- Neasden 40
- Needham and Webster, plan of
Somerset House 82
- Neolithic settlement features 1
- Neve, M, and T H Turner 'Psychiatry
and war' 126–7
- Nixon, T, E McAdam, R Tomber and
H Swain *A Research Framework
for London Archaeology 2002*
(reviewed by Dominic Perring)
129–30
- North, Sir Edward 111
- oven? Roman 18
- Oxford Archaeological Unit 79
- palaeochannels, East Bedfont 11, 13
- Perring, Dominic, reviews T Nixon,
E McAdam, R Tomber and H
Swain *A Research Framework for
London Archaeology 2002* 129–30
- Pipe, Alan 59
- pits:
Bronze Age 15
Iron Age 27, 40
medieval 62–5
prehistoric 5
Roman 5, 29
- plague (1625) 117
- plant remains 15, 17, 43, 45, 51–5,
65, 102–3
- ploughsoil, medieval 36
- pollen analysis 104–5
- Porter, Stephen 'Francis Beaumont's
monument in Charterhouse
Chapel and Elizabeth, Baroness
Cramond as patroness of
memorials in early Stuart
London' 111–19
- postholes:
Iron Age 26, 28
prehistoric 24
- pottery:
Bronze Age 13, 15, 24, 26
Iron Age 23, 25, 27, 28, 40
medieval 45, 61, 62, 63, 66, 72–3
post-medieval 66, 67, 68, 70, 73–4,
84, 85, 96–7
prehistoric 5, 30–3, 32, 40, 48–50,
49, 55
Roman 3, 5, 6, 18, 29, 40, 43,
44–5, 44, 50–1, 55
Saxon 29, 81
19th-century 96
- Pre-Construct Archaeology 23
- prehistoric enclosure 11, 13
- prehistoric occupation 6, 24
- Pringle, Susan 39, 46
- 'Psychiatry and war' (M Neve and T
H Turner) 126–7
- pump 108
- quarry pits:
medieval 45
post-medieval 30
Roman 41–3, 56
- quernstones 45, 46, 55
- Rayner, Louise 39, 48, 50
- Reynolds, Sir Joshua 108
- Richardson, Sir Thomas 112, 113,
118
- Rigault Road, Fulham 59–60, 66
- River Terrace, Somerset House 79,
81, 85–9, 90–1, 108
- river wall 81, 83, 84–5, 107
- Robinson, Mark 79, 102
- Roman occupation 5, 6, 7, 11, 15,
17–18, 25
- Roman roads 25, 40 (Watling Street)
- Romantic Movement 122, 123
- roundhouses, Iron Age 15
- Royal Academy Exhibition Room
108
- St Andrew's church, Holborn 115,
118
- St Botolph, Aldersgate 115
- St John's church, Hackney 115, 116
- St Mary Abbots church 26
- St Mary's church, Ashburnham 117
- St Mary le Strand 81
- Salmon Street, Brent, villa 40
- salt 64
- Sankey, David 'Excavations at Dollis
Hill, Brent' 39–58
- Saxon occupation 25
- Scaife, Robert C 79, 104
- school (charity) 111
- Scott, Ian 79, 101
- Scourfield, Thomas 100
- Seagar Thomas, Mike 23, 30
- Seager Smith, Rachael 9
- sea-level, changes in 6
- Seymour, Edward 81
- shops 71, 71
- Sir John Atkins Building *see* 'An
excavation at the Sir John
Atkins Building, Campden Hill,
Royal Borough of Kensington
and Chelsea'
- slipway 93
- Somerset House 79–110
- Somerset Palace 81, 83–5, 101,
106–7
- South Wing, Somerset House 90
- stable/coach house 85, 89
- stakeholes:
medieval 62
prehistoric 24
Roman 5
- Stanwell cursus 13
- stone objects 24, 41, 46, 63–4, 74
- Stoughton, Leics 115
- Strand 79, 81
- structures:
brick, post-medieval 67, 68, 75
timber, Iron Age 26, 27, 35;
medieval 62, 66
- Sudds, Berni 23
- Sulloniaci* 47
- Sutton, Thomas 111, 113
- Swain, H *see* Nixon, T
- Tasker, John, architect 26
- Taylor, Jeremy '... a special branch of
architecture: architects and the
design of large asylums in the
Victorian period' 123–5
- teeth, cattle 43
- tesserae 48, 56
- Thames foreshore 80, 91, 107
- Thames Valley Archaeological
Services 1
- The Phillimore, Campden Hill 24,
26, 30, 35
- thermoluminescence dating 34
- Thomas, Earl of Suffolk 111
- Thompson, Charlotte *see* Anthony,
Sian
- Thompson, Peter *see* Drummond-
Murray, James
- Thomson, Robert 79, 96
- tile, ceramic:
medieval 66
post-medieval 48, 100
Roman 18, 45, 47, 48, 56
- tobacco pipes 97–100, 98
- Tomber, R *see* Nixon, T
- Toms, S P 23, 34
- trussed girders 86, 88
- trussed mezzanine floor 86, 87
- Tudor river wall 80
- Turner, T H *see* Neve, M
- Victoria Embankment 79, 95
- villa, Roman 40
- Villiers, Sir George 112
- Vince, Alan 59
- weapons, bronze 24
- wells 62, 69–70
- Westferry Road *see* 'An early Roman
occupation site and prehistoric
finds at Westferry Road, Isle of
Dogs, Tower Hamlets'
- Westminster Abbey 118
- wigs 100
- Wood, Duncan, and Julian Munby
'The historical development
of Somerset House: an
archaeological investigation'
79–110
- Woodger, Aidan *see* Brigham, Trevor
- Wordsworth, William 123
- World War II 40 (radio masts),
126–7

Contents

List of presidents and officers.....	v
148th Annual Report of LAMAS Council for the year ending 30th September 2003	vi
Income and Expenditure Account for the year ending 30th September 2003 and Balance Sheet as at 30th September 2003	viii
An early Roman occupation site and prehistoric finds at Westferry Road, Isle of Dogs, Tower Hamlets <i>Sian Anthony and Steve Ford</i>	1
Excavations at Mayfield Farm, East Bedfont, London Borough of Hounslow <i>Philip Jefferson</i>	9
An excavation at the Sir John Atkins Building, Campden Hill, Royal Borough of Kensington and Chelsea <i>Timothy Bradley</i>	23
Excavations at Dollis Hill, Brent <i>David Sankey</i>	39
Medieval and post-medieval Fulham, excavations at 31–35 Fulham High Street, Fulham SW6, 2002 <i>Chiz Harward</i>	59
The historical development of Somerset House: an archaeological investigation <i>Duncan Wood and Julian Munby</i>	79
Francis Beaumont's monument in Charterhouse Chapel and Elizabeth, Baroness Cramond as patroness of memorials in early Stuart London <i>Stephen Porter</i>	111
A summary of papers read at the LAMAS local history conference held at the Museum of London on 15 November 2003: 'Lunatick London'	121
Reviews	129
Index to volume 54	139